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Water-Oriented Outdoor Recreation in the Illinois River Basin (Appendix VI) Illinois - Indiana - Wisconsin

Bureau of Outdoor Recreation, Philadelphia, Pa

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The water recreation situation in the Illinois River Basin is worsening. With population increasing and per capita demand for water recreation activities rising, the combined effect of these two trends is to boost total demand for water-based recreation opportunities at a faster rate than either of the trends producing it. The water resource is relatively fixed in quantity while the quality of the water in the the basin is steadily declining as greater and greater demands are made upon the surface water as a dilutant for a growing variety and quantity of municipal and industrial wastes. If major efforts are not forthcoming in the direction of pollution abatement and other water-quality control measures, the outlook for water for recreation in the Illinois River Basin will be (1) a rapidly growing demand for water recreation activities, and (2) a diminution in both the quality and relative quantity of opportunities for basin residents to engage in these activities due to a steady decline in the quality of the water.

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PB 266 296

Water Oriented
Outdoor Recreation
in the
ILLINOIS RIVER BASIN

APPENDIX VI

Prepared For
UNITED STATES DEPARTMENT OF HEALTH, EDUCATION & WELFARE
PUBLIC HEALTH SERVICE
Region V - Chicago, Illinois

By
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
Northeast Regional Office - Philadelphia, Pa.
January - 1964

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WATER-ORIENTED OUTDOOR RECREATION
in the
ILLINOIS RIVER BASIN

Appendix VI

Illinois - Indiana - Wisconsin

Prepared for

United States
Department of Health, Education and Welfare
Public Health Service
Region V
Chicago, Illinois

By

United States
Department of the Interior
Bureau of Outdoor Recreation
Northeast Regional Office
Philadelphia, Pennsylvania

June 1964

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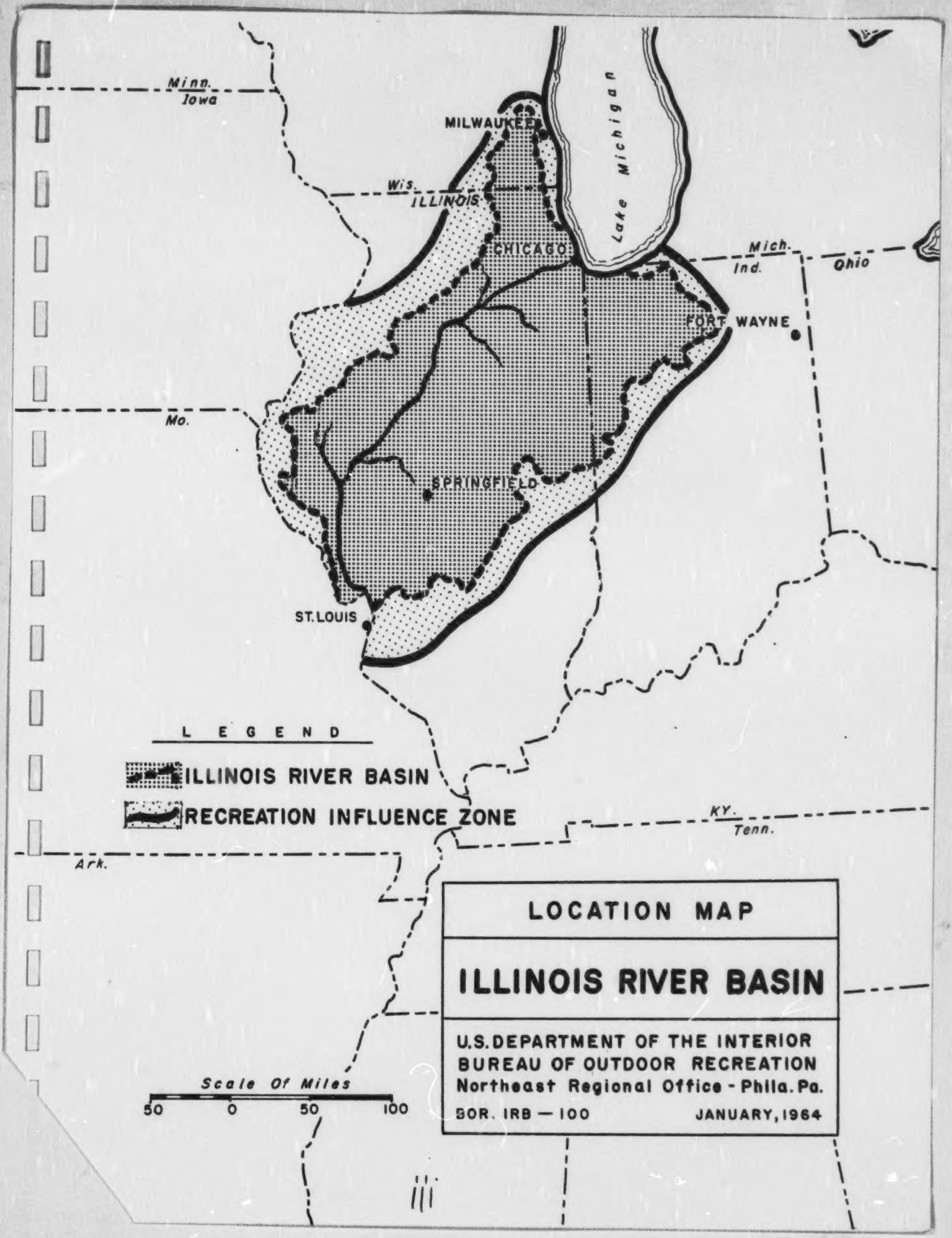
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Ark.
LEGEND
ILLINOIS RIVER BASIN
RECREATION INFLUENCE ZONE
Scale Of Miles
50
0
50
100

LOCATION MAP

ILLINOIS RIVER BASIN

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
Northeast Regional Office - Phila. Pa.
BOR. IRB — 100 JANUARY, 1964

FOREWORD

"Whatever the measuring rod ... it is clear that Americans are seeking the outdoors as never before . . .

"Urban or rural, water is a magnet. Wherever they live, people show a strong urge for water-oriented recreation. There are many other reasons for water resource programs, and recreation use often is incidental or unplanned. To say this, however, is to note how great are the opportunities.

"The first is clearing up pollution. In most major cities, pollution has destroyed valuable recreation opportunities, just where they are needed most. As a sanitation measure alone, the abatement of pollution is a necessity; inherently, it is also one of the best means of increasing recreation opportunities."

. . . from OUTDOOR RECREATION FOR
AMERICA . . . the report of the Outdoor
Recreation Resources Review Commission

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INTRODUCTION

One of the significant social trends of our times is the emergence of outdoor recreation as a major part of American life. For most people outdoor recreation involves water, they swim and fish in it, boat on it, and picnic and hike beside it. The demands for water-based recreation opportunities are expected to expand materially in the next few decades. However, as the demand for water recreation opportunities grows, the number of suitable water areas declines and competition for available areas increases. Thus, more and more people are trying to find recreation space on a resource that is diminishing in quality and, relatively speaking, in quantity. There is evidence that increasing pollution is a major factor making water areas unsuitable for recreation and other uses. This pollution not only drives people away from these areas, but increases the pressure on the remaining recreation areas that still have a sufficiently high quality of water to permit recreational use.

The water recreation situation in the Illinois River Basin is, if anything, worsening. With population increasing and per capita demand for water recreation activities rising, the combined effect of these two trends is to boost total demand for water-based recreation opportunities at a faster rate than either of the trends producing it. This factor along with a bleak water resource outlook, does not offer a very promising water-recreation future for the public. The water resource is relatively fixed in quantity while the quality of the water in the basin is steadily declining as greater and greater demands are made upon the surface water as a dilutant for a growing variety and quantity of municipal and industrial wastes. If major efforts are not forthcoming in the direction of pollution abatement and other water-quality control measures, the outlook for water recreation in the Illinois River Basin will be (1) a rapidly growing demand for water recreation activities, and (2) a diminution in both the quality and relative quantity of opportunities for basin residents to engage in these activities due to a steady decline in the quality of the water.

This report was prepared at the request of the Department of Health, Education and Welfare, Public Health Service, in connection with their comprehensive study of the water resources of the Great Lakes-Illinois River Basins. It has been reviewed by Federal, State and local agencies directly concerned. Their comments are attached in the appendix to this report.

STUDY PURPOSE AND AUTHORIZATION

Study Purpose

The comprehensive studies of water quality by the Public Health Service are aimed at achieving certain water quality management objectives. These have been stated as follows:

1. A determination of the causes of water pollution and the effects of such pollution on the quality of water resources and on beneficial water uses.
2. The development of agreements on the desired beneficial water uses and the water quality objectives necessary to accommodate these uses.
3. The development of pollution control measures to achieve the desired objectives, including the establishment of a timetable for their accomplishment.

Within the context of the above, the purposes of this study are: (1) to evaluate existing water recreation opportunities in the Illinois River Basin and its Zone of Influence; (2) to determine future needs for recreation areas and facilities; (3) to identify potential recreation areas; and (4) to recommend actions or programs to improve the basin's water recreation opportunities both now and in the future.

The accomplishment of the above purposes will facilitate the development of water quality goals with respect to water recreation and will serve to emphasize the urgent need for measures for the prevention and control of water pollution.

Authorization

This survey of the water recreation resources of the Illinois River Basin was prepared by the Northeast Regional Office, Bureau of Outdoor Recreation, Department of the Interior, at the request of William Q. Kehr, Project Director, Great Lakes-Illinois River Basins Project, Division of Water Supply and Pollution Control, Department of Health, Education and Welfare. The Bureau of Outdoor Recreation prepared the study under the basic authorization of Public Law 88-29, 88th Congress enacted May 28, 1963.

Due to the realignment of the Bureau's regional boundaries, the recreation portion of the Great Lakes-Illinois River Basins study is now the responsibility of the Lake Central Regional Office, Bureau of Outdoor Recreation.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

General Findings

1. Water plays the essential role in outdoor recreation. Almost all outdoor recreation activities are dependent on the availability of a body of water, directly in the case of swimming, boating, fishing and water skiing, and indirectly for such activities as picnicking, camping, hiking and pleasure driving where water most often is the major attraction of a natural setting. Where natural surroundings include a usable and clean body of water, the quality of the recreation experience is greatly enhanced; whereas if water is absent, or is present in a polluted condition, the recreation experience suffers. According to the National Recreation Survey of the Outdoor Recreation Resources Review Commission, 44 percent of the population prefers water-based recreation activities over any others. As further evidence of the growing popularity of water recreation activities, swimming is expected to become the most popular of all the outdoor recreation activities in which people engage.

SWIMMING WILL BE
MOST POPULAR OF
ALL OUTDOOR
RECREATION ACTIVITIES

2. The demand for water recreation opportunities is growing rapidly. Since World War II, the demands for outdoor recreation have greatly accelerated, and much of this recreation activity has been centered around the use and enjoyment of our water resources. All indications point toward a continuing increase of these demands.

WATER RECREATION DEMAND WILL MORE THAN TRIPLE IN THE NEXT 40 YEARS

Recent trends indicate a rapidly increasing interest and participation in water recreation activities, especially in swimming, boating, water skiing, skin diving, and in the enjoyment of waterfowl and other aquatic life. Estimated future increases in travel, personal income, and leisure time, when added to estimates of future population growth, indicate that the number of occasions in which people throughout the Nation engage in water recreation activities will more than triple during the next 40 years. This estimate is based on the assumption that the quality and quantity of recreation facilities available to each person will remain about the same on a per capita basis as in 1960. With improvement in the 1960 quality and quantity of facilities available on a per capita basis, it is expected that the number of occasions in which people would engage in water recreation activities would more than quadruple during the next 40 years. Without improvement in both the quality and quantity of water recreation facilities, the increase in participation would be small inasmuch as existing water recreation areas are already used to capacity.

BASIN DEMAND WILL RISE TO OVER 230 MILLION OCCASIONS BY THE YEAR 2000

Demand for water recreation opportunities in the Illinois River Basin is expected to rise to an estimated 230 million occasions by the year 2000. This estimate includes only that recreation activity which is expected to occur during the three summer months of June, July and August. In comparison, an estimated 73 million occasions were participated in during the summer of 1960. This projected threefold rise in demand will require substantial increases in the amount of clean, esthetically attractive streams, lakes and shore areas dedicated to recreation purposes.

3. Water pollution is a major problem in meeting the demand for water-based recreation opportunities. Water pollution has emerged as one of the most important factors limiting the use of lakes, rivers and reservoirs for recreational purposes.[1/] The supply of recreation water is thus being impaired while the pressure of demand for additional water recreation opportunities is rapidly increasing.

In spite of pollution control measures in the Illinois River Basin, large amounts of pollutants are being discharged into the Basin's water resources.

MAINTAINING AN ADEQUATE WATER RECREATION RESOURCE DEPENDS MAINLY UPON THE PREVENTION OF WATER POLLUTION

The initial investigation by the Public Health Service of the Illinois Waterway in the Chicago Metropolitan Area leaves no doubt that it is polluted in its present state. The waterway is not only seriously degraded throughout the Metropolitan Area but for many miles downstream. The causes of this extremely excessive

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[1/] Recreation Advisory Council Circular No. 3, "Policy Governing the Water Pollution and Public Health Aspects of Outdoor Recreation," April 9, 1964.

pollution are the sewage treatment plant effluents, the regular direct discharge to the waterway of untreated or partially treated wastes, intermittent storm water overflows, and by-passing of untreated sewage during periods of high sewage flow. The State of Illinois already recognizes that maintaining water resources adequate in quantity and quality for recreational uses such as aquatic sports and fishing primarily involves the prevention, control and abatement of water pollution. This was pointed out by Illinois' former Governor Stratton in his letter of October 8, 1959 to the U.S. Senate Select Committee on Water Resources.

WATER RESOURCE
MANAGEMENT MUST
BE BASED ON WATER
QUALITY CONSIDERATIONS

As the population increases and new industries develop, this pollution will grow steadily worse unless effective pollution control can be achieved. The increasing demands for recreation water in the face of limited supplies and increasing pollution require that from now on water resources management be based on quality considerations as well as those of quantity. This would be in accordance with the declaration of policy in the Recreation Advisory Council's Circular No. 3 that " . . . recreation be recognized as a full partner with other beneficial water uses in water quality management policies and programs."

4. It is the policy of the Nation that water resources be maintained as clean as possible to provide maximum recreation opportunities. The Recreation Advisory Council has adopted the policy that the water

resources of the Nation be maintained as clean as possible in order to provide maximum recreation opportunities. The Council, recognizing the demand for water-oriented outdoor recreation and the need for immediate and positive action to protect not only the resource being used but, more importantly, the health and safety of the American people, recently set forth the guidelines it believes necessary to prevent and control future water pollution and to restore existing bodies of polluted water to the highest quality practicable. The Recreation Advisory Council is thus on record as recognizing the importance and value to the American people of having adequate water recreation opportunities.

5. The loss of use of recreational water involves significant social and economic costs. Pollution of streams in a metropolitan area results in economic loss through curtailment of recreational use of the waterways, increased water treatment costs, reduced property values, corrosion of boats and nearby structures, and the loss, in some cases, of industrial development. The esthetic value of the streams is destroyed by unsightly floating material, murky waters and unpleasant odors. The biological life of the stream is adversely affected by low oxygen values resulting from the oxygen demand of sewage and industrial wastes. Pleasure boat operators either avoid the waterways or use them as a means of access to less polluted waters. Thus all segments of society suffer losses or incur damages because of water pollution.

Some of these losses or damages are reflected directly in additional costs which must be met, such as the payments for the construction, operation, and maintenance of water treatment facilities.

WATER POLLUTION DAMAGE TO RECREATION WHILE CONSIDERABLE IS DIFFUSED THROUGHOUT SOCIETY

By far the larger share of the total damages is not directly accounted for at all, however. The impairment to health, the loss or diminution of water recreation opportunities, and depreciated values generally, all caused by polluted waters, have an adverse economic impact which is diffused throughout society. Reduced recreational activity means less revenue from equipment sales, lodging and associated recreational expenditures as well as greater costs to those who must travel farther for recreational opportunities. Unfortunately, these indirect consequences of pollution are not readily expressed in dollar terms because of their diffusiveness and because they are not recorded by direct, open market transactions. Nevertheless, such adverse consequences are quite real and constitute grave losses to society.

MEASURES TO CONTROL POLLUTION CAN ALLEVIATE THESE ADVERSE CONDITIONS

Pollution control measures can alleviate these adverse conditions and produce economic and social benefits associated with the improved waters. Many of the benefits from water pollution control fall in the nonmarket realm, including enhancement of recreational opportunity, protection to health, scenic improvement, and assurance of the future utility of the water resource for various other purposes. While monetary values cannot be placed on such intangible benefits, nonetheless their significance is of primary importance.

6. Water recreation opportunities are most urgently needed near metropolitan areas. Because most people wish to travel as short a distance as possible for weekend and day recreation trips, demand for water recreation opportunities is concentrated where people are -- in metropolitan areas. About 90 percent of the 10 million people residing in the upper part of the Illinois River Basin live in the Chicago Metropolitan Area. In the remainder of the basin about two-thirds of the population are in urban centers.

It is in the metropolitan centers where the greatest need for water recreation opportunities exists. This is where it is most difficult to meet this need due to extensive pollution of water bodies in these areas. Also, it is difficult because of the high cost of acquiring suitable land and water recreation areas in and near these major cities. Such open areas as remain are usually highly prized for suburban development which continues to spread outward into formerly open countryside.

7. Water quality standards must be set. There is a great need for research on water quality standards for water recreation activities such as swimming, canoeing, power boating, fishing, skin diving, and

water skiing. Unless adequate research is done to establish such standards, agreement cannot be expected as to the programs to be followed or the steps to be taken to restore water bodies to a sanitary and scenic condition compatible with recreational use.

8. Water quality requirements for recreation are of the highest order. Polluted water is not only unattractive for swimming, boating, water skiing, and picnicking, but it is also a health hazard in connection with such uses. The polluting of waters which are used for recreation will seriously affect the use of such waters for this purpose. According to information received from the State of Illinois Department of Conservation, the reason for lack of swimming opportunities at 22 State recreation areas in the basin is due to the water being declared unfit for bathing by the Illinois State Public Health Department. It means that 52 percent of all the State recreation areas within the Illinois' portion of the basin are situated on polluted waters. Further, it means that of the 40 recreation areas that are situated on water, 55 percent are located on waters that are polluted to the extent that bathing is not permitted.

9. The extent to which water pollution diminishes water recreation opportunities is not generally known. Little information is available as to the relationship between water pollution and the lack of water recreation opportunities. Much information is available on recreation opportunities available at Federal, State and local recreation areas but rarely is data available which would explain why water recreation

opportunities are not provided at a recreation area. We have attempted in this study to fill this gap in our knowledge by requesting precise information from the State of Illinois concerning the relationship between water pollution (or other causes) and the lack of swimming opportunities at State recreation areas.

10. Recreation is a water use which competes with other uses for the same water. It is recognized that suitable flow regulation, together with adequate abatement or control of pollution, is required as part of a comprehensive water quality management program having as its objective the equitable use of water for all purposes including recreation.

11. Recreational use of waters poses some increasingly important problems itself. As more and more pleasure boats are used, the waste discharges from them constitute a source of pollution which is becoming increasingly serious, and which requires regulation and control.

12. As is shown in this survey of existing and potential recreation areas, water-based recreation activities are being jeopardized by water pollution in many areas of the Illinois River Basin. Providing water recreation opportunities for some 24 million people who are expected to reside in the basin in the next 50 years will require major efforts to assure that water quality conditions are met which are consistent with goals for adequate and sanitary recreational water.

13. There is no over-all plan to serve as a policy guide for outdoor recreation development within each of the States. There has been little coordination between State and local governments with respect to determining present or future water or other outdoor recreation needs -- State or local. Further, coordination among the adjoining States with respect to problems associated with water quality management on interstate streams has either been lacking or has been ineffective.

Recommendations

1. Water recreation potential at existing recreation areas should be expanded by cleaning up the presently polluted waters of the Illinois River Basin. It is essential that every effort be made to realize the full potential of water recreation facilities at existing recreation areas. A level of water quality must be achieved in these areas so that healthful water recreation activities can be safely enjoyed. Only by improving the quality of the basin's water resources can the full use potential of the basin's recreation resources be achieved and significant additional recreation benefits obtained.

2. Lands near population centers and lands adjacent to water should be designated top priority for acquisition for public recreation purposes. Visitation figures for recreation facilities, especially those located in and near the Chicago Metropolitan Area, indicate serious overuse of existing water recreation facilities. This condition can be only partially alleviated by development of existing areas now being held in reserve. More importantly in the long-run, expansion of recreation facilities will have to be through acquisition and development of new recreation areas. Expansion of water recreation opportunities should have top priority and every effort should be made to acquire or provide public access to water bodies of suitable quality for recreation activities. Acquisition and development programs must be accelerated if water recreation facilities are to keep pace with the growing demands of a larger and more mobile population.

3. *Efforts must begin now to meet future needs and correct present deficiencies in water and other recreation opportunities.* The demand for water recreation is expected to more than triple over the next 40 years. In order to meet recreation needs within the Zone of Influence, an estimated 114,000 acres of additional land will be needed to meet present deficiencies plus about 473,000 acres of land to satisfy demands for outdoor recreation from now to the year 2010. These requirements should be met whenever possible on rivers, lakes, and reservoirs having water of satisfactory quality for recreational use. Since the need is great the following actions should be taken within the next few years: (1) All potential recreation sites identified in this report should be acquired; and (2) All recommended additions to existing recreation areas should be made.

4. *Each State must accept responsibility for leadership in solving the many problems related to the use and management of the basin's water resources for recreation and other beneficial uses.* The competing demands for the use of the available water within the basin will become more critical as the years go by. The States will have to assume the central role in solving these problems. Since recreation areas should offer the public nothing less than sanitary and scenic water for their enjoyment and use, every effort must be made to reduce water pollution and prevent further degradation of the streams and water bodies of the basin. At every level of government there must

be increased attention given to enforcement of laws and codes designed to protect water from contamination and pollution.

5. The provision of water recreation facilities is primarily a responsibility of State government. The State should play the key role in making water recreation opportunities available to its citizens and visitors. It should bear the major responsibility for meeting the recreation needs of its people by preparing and then implementing a statewide outdoor recreation plan. The plan should provide the framework for all public recreation development within the State and should recognize present and future demand in relation to the present and potential supply of land and water areas suitable for recreation development. After evaluating their opportunities, resources and needs, States in conjunction with regional and local government should acquire and develop sufficient recreation resources to meet these needs.

6. The State should be responsible for managing its water resources in such a manner as to assure an adequate quantity and quality of water to provide for water recreation needs both now and in the future. The State should inventory its water resources and analyze its present and future demand for recreation water throughout the State, both as to quality and quantity. Policies, plans and programs should be developed by the State to assure that these needs will be met. The State is responsible for managing its water resources in a manner that protects the public interest. Providing adequate

water recreation opportunities must be considered a water management objective which is in the highest public interest. The principle of water quality rights should be reflected in appropriate public policies and the primacy of the public health, safety and welfare must be asserted in the management of water resources.

7. The State should provide technical and financial assistance to local governments in the planning and development of water recreation facilities. Local government, in cooperation with the State, must share some of the burden of meeting local outdoor recreation needs. The State should aid communities in carrying out local programs designed to meet water recreation needs by providing them with technical and financial assistance. The Senate Select Committee on Water Resources recommended a goal of setting aside 15 percent of the Nation's water shoreline for public recreation use purposes. Meeting this goal will require the active participation of all levels of government.

8. Water quality criteria applicable to water recreation activities must be established. In the past the quantity of water available for recreation has been considered most important. Today the emphasis is shifting to water quality considerations. As pressure on a limited resource increases and conflicts among competing users become greater, some legal and institutional arrangements will be needed to protect the public's rights to the use of water for recreation. Water-oriented recreational pursuits require clean streams and lakes.

THE STUDY AREA -- PHYSICAL, SOCIAL AND ECONOMIC FACTORS

Location and Size

THE BASIN EXTENDS FROM
MILWAUKEE ON THE NORTH
TO ST. LOUIS ON THE SOUTH

The Illinois River Basin extends from the vicinity of Milwaukee, Chicago and Lake Michigan on the northeast to a point about 40 miles north of St. Louis, Missouri where the Illinois River joins the Mississippi River. The basin is oriented in a northeast to southwest direction. It is roughly 240 miles long by 110 miles wide.

The Illinois River watershed drains about 40 percent of the State of Illinois. It also drains the southeastern portion of Wisconsin and the northwestern part of Indiana. The natural drainage area is about 28,200 square miles in size, of which approximately 1,000 square miles are in Wisconsin, 3,200 in Indiana, and 24,000 in Illinois. By reversing the flow of the Chicago and Calumet Rivers and intercepting certain drainage areas along the Michigan lake shore, the Sanitary District of Chicago has added about 810 square miles from the Lake Michigan watershed to the Illinois River watershed making a new total of 29,010 square miles. The area of the basin is distributed among the States as follows: Illinois - 85 percent, Indiana - 11 percent, and Wisconsin - 4 percent. The above figures include the area of the Illinois River Basin only, they do not include the fringe area portion within the Influence Zone.

The Illinois River is the largest tributary of the Mississippi River above the mouth of the Missouri River. The principal tributaries of the Illinois River, beginning in the north and moving south, are the Des Plaines, Kankakee, Fox, Vermillion, Kickapoo, Mackinaw, Spoon, Sangamon and La Moine Rivers.

The Zone of Influence

INFLUENCE ZONE DEFINED AS BASIN PLUS "FRINGE" AREA

The Zone of Influence is defined as the Illinois drainage basin plus an area 30 to 40 miles wide which immediately adjoins and surrounds the basin. This basin "fringe" area is included to achieve a more reasonable study area for the purpose of analyzing the demand for and supply of the water and other recreation resources serving this area. Thus the Zone of Influence includes in addition to the basin the area, the population, and the existing and potential water recreation resources within a 30 to 40 mile belt around the basin.

THE INFLUENCE ZONE COMPRISES ABOUT 44,000 SQUARE MILES

The Zone of Influence comprises slightly more than 44,000 square miles of area, 85 percent of which is in the State of Illinois. This figure includes the 29,000 square miles in the Basin.

The Sub-Zones -- Upper, Middle, Lower

For the purpose of analysis the basin (and the Zone of Influence) was subdivided into three geographic zones -- the Upper, Middle, and Lower. While not equal in area these sub-zones correspond to the northern, central, and southern portions of the basin. (See map, EXISTING AND POTENTIAL RECREATION AREAS.)

THE UPPER ZONE CENTERS AROUND THE CHICAGO METROPOLITAN AREA

The Upper Zone is defined as that part of the basin considered to be tributary to the Chicago Metropolitan Area insofar as recreation resources and needs are concerned. An arc extending across the basin and roughly 100 miles distant from the center of Chicago defines the limit of the Upper Zone. Within this Zone live about 9.4 million people, or roughly 80 percent of the total Zone of Influence of 11,680,000 in 1960.

THE LOWER ZONE IS TRIBUTARY TO ST. LOUIS-EAST ST. LOUIS METROPOLITAN AREA

The Lower Zone is defined as that part of the basin tributary to the St. Louis-East St. Louis metropolitan area. The boundary of this zone is defined by an arc extending across the basin roughly 75 miles distant from the center of the St. Louis-East St. Louis area. For the purposes of this study only the population of East St. Louis is included in the Lower Zone. Even though the large population in St. Louis, some 1.7 million in 1960, are implicitly taken into consideration in this analysis, they are not included in our definition of the Lower Zone. Thus, according to our definition, there are only 656,000 people residing in the Lower Zone, or about 6 percent of the total Zone of Influence population.

THE MIDDLE ZONE INCLUDES THE CENTRAL PORTION OF THE BASIN

The Middle Zone is defined as the central part of the basin. It consists of all the area not included in either of the other zones. While the other two zones are oriented around major metropolitan centers, the Middle Zone contains several cities in the size range of 100,000-200,000 population. These are dispersed throughout the zone.

The Middle Zone contains 1.6 million people, or about 14 percent of the total Zone of Influence population of 11,680,000 in 1960.

Population

The Illinois River Basin includes portion of three States, Illinois, Indiana, and Wisconsin. Illinois is the fourth most populus State in the Nation with a 1960 population of 10,081,000 people. The 1960 population of the basin and the Influence Zone totalled 11.7 million people. This population was distributed among the three States as follows: the Illinois portion of the basin and Influence Zone had 9.2 million people (78 percent of the total), Wisconsin accounted for 1.5 million persons (13 percent), and the Indiana part of the basin had 1 million people (9 percent).

By the year 2010 the population of the basin and Influence Zone is expected to increase to 24,336,000 people. This will result in more than a doubling of population density, from 330 persons per square mile in 1960 to 685 persons per square mile by the year 2010.

POPULATION DISTRIBUTION BY ZONE

The population in the Illinois River Basin and Influence Zone is distributed as follows: Upper Zone - 9,413,000 people in 1960 (80 percent of the basin total), Middle Zone - 1,622,000 persons (14 percent of the total), and Lower Zone 656,000 people (6 percent of the total). Most of the population within the basin's Zone of Influence is centered in the Chicago, Milwaukee and St. Louis Metropolitan Areas. Basinwide population is expected to double by the year 2010 and most of this increase will occur in or near the principal urban areas.

BASIN POPULATION IS 85 PERCENT URBAN

The urban population of the State of Illinois increased by 20 percent between 1950 and 1960 while the State's rural population declined by almost 1 percent during the same decade. The population of the Upper Zone is classified as 90 percent urban, the Middle Zone population is 60 percent urban, and the Lower Zone population is 66 percent urban. The basin and Influence Zone population as a whole is about 85 percent urban and 15 percent rural.

The Chicago SMSA (Standard Metropolitan Statistical Area) had a 1960 population of 6,221,000 representing about 53 percent of the total population residing in the Illinois River Basin and Influence Zone. About two-thirds of the total Upper Zone population resides in the Chicago SMSA.

POPULATION

ILLINOIS RIVER BASIN & ZONE OF INFLUENCE

	1960			
	Population (in 000's)	Density (persons/sq. mi.)	Percent Urban	2010 Population (in 000's)
Illinois	10,081	180	80.7	--
Total Zone of Influ.	11,680	274	84.8	24,336
Upper Zone	9,402	523	89.9	20,016
Middle Zone	1,622	86	62.9	2,725
Lower Zone	656	115	66.5	1,595

NON-RESIDENT VISITORS TO THE BASIN Regions which receive significant numbers of non-resident visitors for outdoor recreation purposes on a longer than day-use basis are generally endowed with recreation resources more attractive than those found in neighboring areas. Therefore, in view of the outstanding recreation resources that are found in northern Wisconsin, Michigan and Minnesota, it is improbable that large numbers of non-residents will visit the basin for outdoor recreation purposes. The assumption that there will be few non-resident recreationists coming into the Illinois River Basin is based upon the scarcity and low quality of the area's water recreation resources relative to those available nearby in the Upper Peninsula and Northern Great Lakes region. Even though the Illinois River Basin will not be a major recreation target area for non-residents, many tourists and recreation seekers will travel through the basin on their trips to other destinations. Some of these travellers will undoubtedly use the basin's recreation facilities while enroute.

The Economy

The economy of the Illinois River Basin is strongly influenced by the area's strategic location at the transportation crossroads of the Nation. The Illinois Waterway provides the major connecting link between the Nation's two most important inland waterways -- the Great Lakes and the Mississippi River System. The area's importance in manufacturing, distribution, and financial activities is historically related to the preeminent location of the area at the nexus of the country's transportation network.

The economic development of the Illinois River Basin is at an advanced stage. This is attested to by both the size and variety of industrial and commercial activities found in the area. Much of this economic activity takes place in and near the Chicago Metropolitan Area. Essentially the area's economic strength rests on the manufacturing and commercial sectors of the local economy. However, agriculture and transportation are important components of this economic structure. Much of the land in the Illinois River Basin is devoted to agriculture. The chief crops grown in the basin are corn, alfalfa, soybeans and other small grains, hay and forage crops. In the upper portions of the Fox and Des Plaines Rivers, pasture lands are predominant and dairying is of major importance.

Chicago, the third largest metropolitan area in the Nation, dominates the economic life of the Illinois River Basin. The importance of the Chicago Metropolitan Area in the economic sphere is indicated by the fact that although it contains 62 percent of the population of the State of Illinois, it accounts for 82 percent of wholesale trade sales, 71 percent of value added by manufacture, and 66 percent of retail trade sales in the State of Illinois.

Located to the south of the Illinois River Basin, the City of St. Louis, Missouri exerts but a moderate influence on the basin's economy. The St. Louis metropolitan area, only one-third the size of the Chicago area in terms of population, is located at the southern end of the Illinois River Basin away from the concentration of economic activity in the northern and central portion of the basin.

Transportation

HIGHWAYS AND RECREATION TRAVEL

Tourist and recreation travel in the Illinois River Basin is primarily by private automobile. This will undoubtedly continue to be the most widespread mode of recreation travel in the region. An overall increase in mobility due to almost universal private car ownership has led to a marked rise in recreation travel. This has not only produced overcrowding on highways, especially in the vicinity of metropolitan areas, but has resulted in overuse of many recreation areas and facilities.

By shortening the time-distance between most points the Interstate Highway System has improved ease of access to recreation areas previously thought too distant by most recreationists. But even though improved accessibility has had the effect of spreading demand over a wider geographic area, the pressure on all recreation areas has been greatly intensified as recreation demand has mounted under the combined impact of greater mobility, higher incomes, and more leisure time. The effect of the Interstate Highway System will be to further intensify recreation demand as well as to extend it over a broader geographic area. This will not only increase the day use and weekend visitation at recreation areas in the basin but it will facilitate the exodus of residents seeking higher-quality recreation opportunities outside the Illinois River Basin.

A network of hard-surfaced roads connected with a secondary system of surface-treated roads provides access to all parts of the basin.

RAIL AND AIR MOVEMENT

The Illinois River Basin is well served by railroads and airports. Chicago, situated at the upper end of the basin, is a major center for transportation facilities. St. Louis, situated near the lower end of the basin, is second only to Chicago as a transportation center. In branching out from Chicago and St. Louis, the principal transcontinental and north and south railroad lines cross the basin and adequately serve all of the cities and principal towns and villages. Serving the

Chicago area are 34 railroads including 20 trunk lines. St. Louis has 18 rail lines converging to form a highly concentrated rail center. Several major airports provide domestic and international airline service. The large airports at Chicago and St. Louis, as well as those at intermediate points, are linked by various transportation lines to all parts of the watershed. Air and rail transportation are playing a somewhat more important role in vacation travel as personal incomes rise, as greater value is placed on leisure time, and as the region's roads become more congested.

WATER TRANSPORTATION

The Illinois Waterway provides a navigable channel between the Great Lakes and the Mississippi River System. It is completely canalized, includes eight navigation locks and seven dams, and provides a dependable minimum depth of 9 feet. The principal commodities transported are, by tonnage, petroleum products (33 percent of total tonnage), bituminous coal (25 percent), sand, gravel and crushed stone (17 percent). Grain is the only other commodity accounting for more than 5 percent of the total tonnage. About 85 percent of the total traffic on the Illinois Waterway is upbound (northbound). The Illinois Waterway carried waterborne commerce totalling 27 million short tons in 1961. The greatest concentration of terminal facilities is in the Chicago and St. Louis areas, with a fairly even distribution of docks elsewhere along the waterway.

THE RECREATION RESOURCES

The Water

There are many hundreds of water bodies in the Illinois River Basin in the form of lakes, reservoirs, sloughs and rivers. Natural lakes are associated with parts of the glaciated area in the very northern part of the State, particularly Lake County where is found the Chain O' Lakes area. There are large reservoirs in central Illinois which are designed primarily for surface water storage and water supply but also provide opportunities for recreation. While the physical supply of surface waters within the basin Influence Zone are normally sufficient in terms of present uses and demand, there have been recent periods of drought. The years 1952-1955 constituted such a period of extended drought not only in Illinois but throughout much of the mid-continent. The Basin is subject not only to extended drought periods but to extreme floods as well.

Within the Basin there are about 62,000 acres of water surface area in ponds, sloughs, and shallow flood-plain lakes. These lakes are used for public fishing, boating, and to a more limited extent swimming. The basin water resources are used for many purposes, some of which are not compatible with recreational use of the water. The uses include domestic and municipal water supply, industrial processing and cooling, removal and ultimate disposal of treated and untreated municipal and industrial wastes, navigation, game and commercial fishing, limited irrigation, hydro- and thermal-electric power, livestock watering, support of wildlife, and recreation. The largest single withdrawal use for water in Illinois is for cooling purposes in industrial processes.

The Topography

The physical features of the Illinois River Basin have been shaped in fairly recent geologic time by successive stages of continental glaciation. The topography of the basin shows widespread effects of the advance and retreat of several ice sheets. The principal exception is an unglaciated portion along the Mississippi River to the north and south of the St. Louis-East St. Louis area. This area was not covered by the ice advance and consequently its physical character is in great contrast to the central and southcentral basin which it adjoins.

The basin is characterized by topographic diversity. The relief along the Illinois River ranges from broad flood plains with marginal lakes and marshes to picturesque limestone or sandstone cliffs rising sharply above the river. Small tributary streams have formed deeply incised valleys and ravines through a process of erosion. The terrain in the basin is interesting, varied and suitable for a wide range of recreation activities. If adequate water recreation resources could be provided as an integral part of each existing and proposed recreation area there would be no reason for the basin to remain deficient in recreation assets. The topographic and other natural assets are there; it is, to a large degree, the lack of a sanitary and scenic water resource that stands in the way of the full use and enjoyment of the basin's otherwise ample natural endowment.

The Flora

The flora of the Illinois River Basin is categorized as the Prairie Peninsula Section of the Oak-Hickory Forest Region with black walnut, ash, hard maple and other hard woods also being present. Growths of willow, box elder and cottonwood are found along the streams and rivers. While the historic "prairie lands" have mostly succumbed to the cultivation of farm crops, two sections of the basin remain relatively well wooded -- the southern and west-central portions situated mainly between the Illinois and the Mississippi Rivers. Variation in topography such as low lands of the two rivers, other bottomlands, uplands, or river-bluffs support characteristic and distinctive plant types.

There are many undeveloped forested areas in the basin suitable for park and recreation use. If properly developed, recreation could become the most important product of those forested lands located near populated centers.

The Climate

The Illinois River Basin has variable climatic conditions. Relatively hot summers prevail throughout the basin and induce many people to travel out of the area for vacations. One exception is the northeast section where breezes from Lake Michigan during the summer months are a welcome relief for the people who crowd to the lakeshore beaches. The winter season is not sufficiently reliable to support a large scale winter recreation program. The major outdoor recreation season extends over an approximate six-month period from May to October.

The mean annual temperature for the basin is fifty-one degrees. The recorded extreme temperatures, occuring during the months of July and January, were 116 degrees above zero and 34 degrees below zero, respectively. Approximately fifty percent of the annual precipitation of nearly 37 inches occurs during spring and early summer.

Water Recreation Resource Outside the Study Area

In order to estimate potential visitation for facilities within the basin, a brief examination of areas tending to draw visitors away from basin developments must first be analyzed.

The water recreation resource area exerting the greatest influence upon the population of the basin is the northern Great Lakes area of Michigan, Wisconsin and Minnesota. The vacation and tourist revenues originating from Illinois comprise a considerable portion of each of these State's income. Wisconsin's "Vacation Land" or Michigan's "Water Wonderland" are nationally known resort areas and draw large numbers of vacationers from midwest regions. Over 40 percent of Wisconsin's tourist visitation originates from Illinois. Metropolitan Chicago contributes over half of those Illinois residents seeking recreation in Wisconsin. This trend is not confined to one particular age group as evidenced by the fact that 60 percent of Wisconsin's private juvenile camp clientele also originate from Illinois.

Diversified recreation activities and opportunities are abundant to the north, ranging from complete isolation in wilderness areas to crowded public beaches along Lake Michigan. Even though the basin lacks both the quantity and quality of the water recreation resources of the areas to the north of it, the demand for recreation facilities located within the basin is so great, especially in the Chicago area, that it will be a major problem to meet and satisfy within reasonable driving distance the varied recreation needs of the basin's residents.

Several Federal reservoirs to be completed just outside the Zone of Influence will provide additional water recreation opportunities for people living within the basin. The reservoirs, such as the Shelbyville and Carlyle on the Kaskaskia River and Rend Lake on the Big Muddy River, will be located just south of the lower Basin limits and will serve primarily the central Illinois and the Metropolitan St. Louis area.

Southern Illinois also contains valuable recreation resources. Shawnee National Forest and Crab Orchard National Wildlife Refuge serve as major attractions for the population of southern Illinois, and portions of Indiana, Missouri and Kentucky. In addition there is the rugged, forested terrain associated with the unglaciated portion of the basin between the Illinois and Mississippi Rivers.

WATER RECREATION -- THE PRESENT SITUATION

The Relationship Between Water and Recreation

The location pattern of recreation areas in the Zone of Influence shows a close association with the water resources of the basin. The principal water resource within the Illinois River Basin is, of course, the Illinois River and its major tributaries--the Fox, Sangamon, Des Plaines, and Kankakee Rivers. Outside the Illinois River drainage basin but within its Zone of Influence are the other major water resources considered to have an important impact on recreation--Lake Michigan, the Mississippi River, and the Rock River.

MOST RECREATION AREAS ARE LOCATED ON WATER According to Table I, EXISTING RECREATION AREAS IN THE ILLINOIS RIVER BASIN INFLUENCE ZONE, 85 percent of all the recreation areas in the study area are located on water. Of the 59 recreation areas situated on water, two-thirds are located on rivers and lakes within the Illinois River Basin. Twenty-three areas are found on the Illinois, Fox, Des Plaines, and Kankakee Rivers and 16 are located on lakes in the basin including one area on the shore of Lake Michigan. Also, there are 20 recreation areas located on water outside the Illinois River Basin but within the Zone of Influence, mainly along the Mississippi and Rock Rivers.

WATER IS AN ESSENTIAL INGREDIENT IN OUTDOOR RECREATION

The close association of outdoor recreation with water resources illustrates very well the complementary nature of recreation and water. It is quite evident that water is the essential ingredient which determines the quality and value of a recreation experience. No elaborate research is necessary to arrive at the conclusion that the quality of recreation is directly related to the quality of water, both sanitary and scenic.

Water Recreation Opportunities in the Chicago Metropolitan Area

According to recent findings of the Outdoor Recreation Resources Review Commission (Study Report 21, Vol. I), recreation water users of the Chicago area are not well served at the present time. Since water is the key to much of the recreation potential of any region, it appears that residents of the Chicago Metropolitan Area are not in a favorable situation in spite of their proximity to Lake Michigan. Of the recreation areas within 80 miles of Chicago which have water for swimming, boating or fishing, only six areas offer swimming opportunities, and nine offer boating, while all of them are suitable for fishing.

CHICAGO AREA SWIMMING PARTICIPATION IS FAR BELOW THE NATIONAL AVERAGE

The National Recreation Survey data on swimming indicates 5 days per person of swimming activity in the population group 12 years of age and over (data for large cities in North-Central U.S.). At this rate the metropolitan area population would have between

20 and 25 million occasions of participation in swimming. This would include both urban and non-urban swimming facilities. However, the recorded swimming activity of the Chicago Park District (12.6 million visitors) is far under the theoretical participation indicated by the National Recreation Survey. Even when allowance is made for possible swimming activity at the Cook County Forest Preserve and all other public resources within 50 miles of Chicago, the possible totals fall far short of the swimming participation one would expect based on the size of the metropolitan area population and the average participation rate.

LAKE MICHIGAN IS CHICAGO'S MAJOR RECREATION WATER RESOURCE

Chicago's major recreation water resource is the Lake Michigan waterfront. While there is evidence of substantial use of Lake Michigan beaches, the shorelands do not receive the same degree of intensive mass use as is true of beaches serving such other large cities as New York and Los Angeles. This is probably due to the lake waters being quite cool for swimming and possibly to the lack of a beach area of greater depth extending back from the lake.

POLLUTION IS WIDESPREAD IN CHICAGO'S STREAMS AND INLAND LAKES

In addition to chilly Lake Michigan waters, swimmers encounter pollution in the streams and inland lakes in the six-county metropolitan area. While pollution is not a critical problem in Lake Michigan itself, it reaches serious proportions on the streams and inland lakes in the Chicago region. Improvement of the quality of the inland water resource would greatly increase water recreation opportunities in the area.

Water Recreation Opportunities in the St. Louis-East St. Louis Metropolitan Area

Reports made to the Outdoor Recreation Resources Review Commission concerning the water facilities available for people in the St. Louis Metropolitan Area indicate a severe shortage of such facilities particularly within 50 miles of the city. This is in spite of the fact that St. Louis is located near the confluence of three large rivers, the Illinois, the Mississippi, and the Missouri, and is also quite close to the Meramec River. However, most of the water recreation available within 50 miles of St. Louis and East St. Louis is at Corps of Engineers facilities on the Mississippi River to the northwest of the city, particularly at Alton Lake. At a minimum, 8 million recreation visits were made by St. Louis Metropolitan Area residents in 1960, and about 40 percent of these occurred within 50 miles of the central city. The great bulk of this visitation was concentrated at the two Corps of Engineers pools formed by the Alton Locks.

ST. LOUIS FACED WITH SERIOUS DEFICIENCY IN WATER RECREATION RESOURCES

Apparently people from this area seek water recreation opportunities even when the water is of poor quality. An example is the popularity of swimming at Pere Marquette State Park, located on the Illinois River about 35 miles from the city, even though this park

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offers a most undesirable swimming site. There is a clear and present deficiency of water recreation resources for residents of St. Louis where a long, hot, humid summer makes provision of adequate water areas an important requirement. The area urgently needs clean and extensive beach and water areas for more recreation located near enough for day use.

The Quality of Recreation Water

More than anything else the sanitary quality and scenic condition of water determines the quality of outdoor recreation. The relationship between clean water and the provision of adequate recreation opportunities is now and will continue to be the major problem in outdoor recreation. In this connection it is important to note that although 85 percent of the recreation areas within the Zone of Influence are located on water, only 20 percent of them are able to provide opportunities for swimming.

MORE THAN HALF OF THE STATE RECREATION AREAS IN THE ILLINOIS PART OF THE BASIN ARE LOCATED ON WATER UNFIT FOR SWIMMING

Water pollution is the principal cause for the lack of swimming opportunities at State recreation areas in the Illinois part of the basin. According to information received from the State of Illinois Department of Conservation, the lack of swimming opportunities at 22 State recreation areas in the Illinois River Basin is due to the water being unfit for bathing. Of the 40 State recreation areas situated on water, 55 percent are located

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on waters that are polluted to the extent that bathing is not permitted. This is a serious situation inasmuch as these waters are the principal water recreation resource within the basin. It seems inconceivable that the 12 million people residing in the basin Influence Zone today will tolerate the degraded conditions which deny them the safe recreational use of their water resources. If these people and succeeding generations (expected to reach a total population of 24 million in 50 years) are to have adequate opportunities to safely participate in water recreation activities, aggressive action to control and abate pollution must be undertaken - and soon.

Water Recreation Activities Require a High Quality Water Resource

Water quality requirements for recreation are of the highest order, paralleling those of public water supplies. The requirements of water used for swimming and bathing are that the water be reasonably free of toxic chemicals, disease causing bacteria, objectionable visible matter, and obnoxious tastes and odors. In addition, many States require that no detectable tastes, odors, scum, greasy oil, or sludge deposits be present in surface water. Some States specify minimum limits for amounts of dissolved oxygen, maximum limits on amounts of color, specified ranges of pH, and a maximum limit of turbidity. The principal criteria for water used solely for boating, is that the water be free of objectionable color, odors, and floating or submerged solids.

POLLUTION A HAZARD TO RECREATIONAL USE OF WATER

It is evident that polluted water is not only unattractive for boating, water skiing, swimming, and picnicking, but is a health hazard in connection with such uses. The polluting of waters which are used for recreation may seriously affect the use of such waters for these purposes.

The demand for clean water for swimming, boating, sport fishing, water skiing and other water related sports has grown tremendously in recent years, and all evidence points to the fact that it will continue to do so.

The Effect of Water Pollution on Water Recreation in the Illinois River Basin

There are 42 recreation areas in the State of Illinois' portion of the basin administered by the Illinois Department of Conservation. Of these, 40 are located on water -- 15 on the Illinois River, 2 on the Mississippi River, 2 on the Rock River, and one each on the Fox River, Green River, Kankakee River, and a small tributary of the Rock River. The rest are located on lakes and reservoirs.

Of the 40 State recreation areas located on water, only three provide swimming opportunities. These are Illinois Beach State Park located on Lake Michigan near the Wisconsin border; Sid Simpson State Park on the Mississippi River about 120 miles north of St. Louis, and Pere Marquette State Park, located on the Mississippi River about

25 miles north of St. Louis. The three areas providing swimming opportunities represent 7 percent of all the State recreation areas in the Illinois portion of the basin and comprise about 7.5 percent of the 40 recreation areas that are located on water.

It is the judgment of the State of Illinois Department of Conservation that streams, particularly larger streams, should not be considered acceptable for swimming. They feel that there are too many ways in which contamination enters these streams from the highly developed urbanized and industrialized parts of the State.

With respect to providing more water recreation opportunities through a vigorous stream pollution abatement program, the Illinois Department of Conservation feels that certain recreation benefits would be derived. They have indicated that the improved water quality that could be obtained would result in improved fish habitat and in greater angling opportunities in the river, adjoining backwaters and lateral reservoirs; also recreational boating would have more extensive and desirable water areas and wildlife resources would likewise respond positively.

Some of the conditions which make water recreation in the Chicago area so intolerable are described below. A recent survey by the Public Health Service indicated the presence of the following debris along the banks and on the surface of the Illinois Waterway: paper, feces, condoms, detergent foam rubbish, tires, furniture, logs, timber of various descriptions, tree branches and trimmings, bottles, cans of sizes from small food containers to oil drums, rising gas bubbles giving the appearance of rain falling on the river, dead fish, material that appeared to be ground garbage, and in one area sludge was rising in such a manner that the water appeared to boil. Items observed along the banks included trash and rubbish dumps, rats, and outfalls of various sizes and descriptions.

The sewage effluent alone entering the Chicago sanitary and ship canal from the Chicago metropolitan area, according to recent estimates, has an estimated population equivalent ranging from 800,000 to 1,400,000. Conditions will probably continue to deteriorate unless extraordinary measures are taken to abate pollution. If Chicago continues to grow as it has during the past 50 years, the waste discharge will probably double to about 2 million population equivalents. This will of course have an adverse effect on the recreational use of the basin's waters in the Greater Chicago area.

Listed on the next page are the recreation areas administered by the State of Illinois at which the lack of swimming opportunities is due to the water being unfit for bathing. It appears from the information presented in the table that over two-thirds of the recreation areas situated on polluted water are located along the main stem of the Illinois River. However, water pollution appears also to be a problem at State recreation areas located on the Rock, Fox, Kankakee, Green and Mississippi Rivers. The areas are identified by name and by number on the map EXISTING AND POTENTIAL RECREATION AREAS.

STATE OF ILLINOIS ADMINISTERED RECREATION AREAS AT WHICH THE LACK OF SWIMMING OPPORTUNITIES IS DUE TO THE WATER BEING DECLARED UNFIT FOR BATHING ACCORDING TO STANDARDS OF THE ILLINOIS STATE PUBLIC HEALTH DEPARTMENT

Name of Recreation Area	No. on Map	Water Location
1. Channahon Parkway State Park	57 S	Illinois River
2. Wm. G. Stratton State Park	59 S	Illinois River
3. Gebhard Woods State Park	60 S	Illinois River
4. Illinois-Michigan Canal State Park	61 S	Illinois River
5. Illini State Park	62 S	Illinois River
6. Buffalo Rock State Park	68 S	Illinois River
7. Starved Rock State Park	69 S	Illinois River
8. Matthiessen State Park	70 S	Illinois River
9. Sparland Conservation Area	83 S	Illinois River
10. Spring Branch Conservation Area	84 S	Illinois River
11. Woodford County Conservation Area	85 S	Illinois River
12. Marshall County Conservation Area	86 S	Illinois River
13. Rice Lake Conservation Area	94 S	Illinois River
14. Anderson Lake Conservation Area	97 S	Illinois River
15. Sanganois Conservation Area	98 S	Illinois River
16. Lowden Memorial State Park	28 S	Rock River
17. Black Hawk State Park	76 S	Rock River
18. McHenry Dam State Park	17 S	Reservoir (Fox River)

Name of Recreation Area	No. on Map	Water Location
19. Fox River State Park	67 S	Fox River
20. Kankakee River State Park	49 S	Kankakee River
21. Lee County Conservation Area	71 S	Green River
22. Delabar State Park	82 S	Mississippi River

Insufficient Development Funds Also an Important Reason for Lack of Swimming Opportunities at State Recreation Areas in the Basin

The Conservation Department of the State of Illinois has indicated that the reason for lack of swimming facilities at 14 State recreation areas is insufficient funds for (1) development and maintenance of bathing beaches and (2) construction of circulating treatment facilities. These 14 State recreation areas are all located on artificial lakes. They constitute 35 percent of the State recreation areas located on water in the Illinois portion of the basin.

According to the Director of the Illinois Department of Conservation, the use of these 14 lake recreation areas for swimming is entirely dependent on the appropriation of funds for construction of beaches and proper bathhouse facilities as well as installation of water circulation and treatment systems. The Director indicated that the Department has for a number of years realized the desirability of providing swimming at their lakes. Further, the Department determined quite some time ago that water circulating and treating systems would be a necessity at any of the State lakes to insure healthful swimming areas for the public. Even though this is not a requirement of the Illinois State Public Health Department, it is a recommendation of that agency which the Conservation Department feels should be followed. Water treatment and circulating systems are costly and involve segregation of swimming areas from the main lake.

Listed on the following page are the 14 recreation areas which lack bathing facilities. They are identified by name and by number location on the map EXISTING AND POTENTIAL RECREATION AREAS. The map shows that their locations are scattered throughout the basin -- 4 of them are in the Chicago area, 2 are nearby East St. Louis, and several are distributed throughout the central part of the basin.

STATE OF ILLINOIS ADMINISTERED RECREATION AREAS AT WHICH THE LACK OF SWIMMING OPPORTUNITIES IS DUE TO A LACK OF FUNDS FOR DEVELOPMENT, MAINTENANCE AND CIRCULATING TREATMENT FACILITIES

	Name of Recreation Area	Number on Map	Water Location
1.	Chain O' Lakes State Park	16 S	Lakes
2.	Rock Cut State Park	26 S	Lake
3.	DuPage County Conservation Area (Palm Track)	35 S	Lake
4.	DuPage County Conservation Area (Mallard Lake)	37 S	Lake
5.	Wolf Lake Conservation Area	40 S	Lake
6.	Johnson Sauk Trail State Park	73 S	Lake
7.	McLean County Conservation Area	87 S	Lake
8.	Kickapoo State Park	88 S	Lake
9.	Weldon Springs State Park	91 S	Lake
10.	Spring Lake State Park	93 S	Lake
11.	Argyle Lake State Park	99 S	Lake
12.	Siloam Springs State Park	105 S	Lake
13.	Beaver Dam State Park	112 S	Lake
14.	Grand Marais State Park	114 S	Lake

Problems of Recreational Use of Navigable Waterways

The Illinois Waterway is used for many forms of aquatic recreation. Pleasure craft are frequently seen traveling along the canal system. Lockages of pleasure craft during 1960 for the seven locks along the Illinois River, as reported to the Corps of Engineers, are as follows: upbound 7,889 and downbound 8,586. In spite of hazards attributable to polluted waters children swim in the canal and water skiers use the waterway.

The use of the basin's navigable waters for commerce contributes to the overall problem of water pollution. The loading and unloading of bulk cargoes, especially petroleum and chemical products, at industrial and storage locations along the waterway involves the hazard of spills or leaks. Such discharges have a serious effect on the recreation use of the downstream waters. Also, they can have serious consequences for fish and wildlife resources. For instance, recently a bursting storage tank and a leaking tank farm pipe allowed 1.4 million gallons of petroleum and 3 million gallons of soybean oil to spew out into the Upper Mississippi River. Cold weather kept the full effects from becoming apparent until the ice went out and the oil was carried into and down the Mississippi. An estimated 10,000 ducks, plus beaver, muskrats, other wildlife and fish were caught in the oil. Over two hundred miles of the river carried a heavy oil slick and it continued downstream. Bathing beaches and boat landings were fouled and local spawning areas for fish were covered. This incident illustrates the seriousness of the hazard to water recreation which exists as the result of the commercial and industrial use of these major waterways. Steps must be taken to control and minimize the conflicts which impair the full and safe use of these multi-purpose waters for recreation activities. Proper safeguards should be taken to protect the obvious recreational values of these waters and the public interest therein.

Some adverse effects from recreational use of water

There are several deleterious effects on water quality caused from recreational use of water bodies. These include uncontrolled refuse and trash disposal from boats and shoreline developments which can increase organic loading and through various decomposition processes cause odors and other aesthetically displeasing effects. Also, disposal of untreated sewage from boats introduces pathogenic organisms, organic load, taste and odor causing substances, and solid material all of which is aesthetically objectionable. In addition, gasoline driven outboards introduce oil, partially oxidized hydrocarbons and other toxic materials into the water. In isolated areas the disposal of sanitary wastes from recreational areas can be a problem.

Some regulatory efforts will be necessary to cope with the problems associated with recreation-use effects on water quality.

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OUTDOOR RECREATION DEVELOPMENT - THE PRESENT

General Description

There are a total of 68 recreation areas in the Illinois River Basin Influence Zone. (Refer to Table I, EXISTING RECREATION AREAS IN THE ILLINOIS RIVER BASIN INFLUENCE ZONE) They are administered by Federal, State and local public agencies as well as by private groups. Most of these recreation areas, about 85 percent, are located on a body of water, either a lake, river, reservoir or lakeshore. The following table gives a breakdown of existing recreation areas by level of government and type of area. Also shown are the number and proportion of recreation areas located on a body of water.

Level of Administering Agency	No. of Areas	Located on Water Number	Located on Water % of Total
Federal			
Wildlife Refuges	5	5	100
State			
Parks	15	14	93
Recreation Areas	32	31	97
Forests and Canoe Route	3	2	67
Local			
Recreation Areas	11	5	45
Major Quasi-Public & Private			
Nature Preserves	2	1	50
TOTAL	68	58	85

There are about 159,000 acres of land and water area used for recreation in the Influence Zone. About 21,500 acres, or 14 percent is water surface. Recreation areas in Illinois comprise 130,800 acres (83 percent of the total); Wisconsin has 20,900 acres (13 percent of the total); and Indiana has 5,740 acres (4 percent of the total).

DISTRIBUTION OF RECREATION AREAS The 66 recreation areas are located in the following States: Illinois - 56 areas (82 percent); Wisconsin - 8 areas (12 percent); and Indiana - 4 areas (6 percent).

The existing acreage in recreation areas is distributed within the Influence Zone as shown in the following table. The largest amount of acreage set aside for recreation is concentrated in the Upper Zone.

		Area within Each Zone	
Zones	No. of Areas	In Acres	Percent of Total
Upper	38	97,520	(61.5)
Middle	25	47,685	(30.1)
Lower	5	13,310	(8.4)
TOTAL	68	158,515	(100.0)

The distribution of recreation areas within the Influence Zone shows a heavy concentration (38 of the 68) in the Upper Zone in and around the Chicago and Milwaukee Metropolitan Areas. This zone contains 56 percent of the total number of recreation areas. The Middle Zone contains 37 percent of the total and the 5 areas in the Lower Zone comprise 7 percent of the total. Most of the recreation areas are situated on the major rivers -- the Illinois, Fox, Kankakee, Mississippi and Rock Rivers.

PER CAPITA SUPPLY OF RECREATION LAND

Throughout the basin there are about 14 acres of recreation land per 1,000 people. On a per capita basis the supply of land for recreation varies considerably within the basin. For instance, the Upper Zone (Chicago area) has the lowest per capita recreation land acreage -- 10 acres per 1,000 population. The Lower Zone averages 20 acres of recreation land per 1,000 people and the Middle Zone has the highest per capita acreage -- 27 acres per 1,000 population. These findings are presented in the table below.

Existing Recreation Land
Illinois River Basin - Zone of Influence

		Acreage in 1960			Acres per 1000 pop.	
	No. of Areas	Total	Federal	State & Local	State & Local	Total
Total Zone of Influence	68	158,515	16,816	141,699	12.1	13.6
Upper Zone	38	97,520	--	97,520	10.4	10.4
Middle Zone	25	47,685	10,236	37,449	23.1	27.4
Lower Zone	5	13,310	6,580	6,730	10.2	20.3

LEVEL OF ADMINISTERING AGENCY

Almost three-fourths of the recreation areas are administered by State agencies (50 of the 68 areas). Local governments administer 16 percent, Federal agencies (Bureau of Sport Fisheries and Wildlife) about 7 percent, and a private non-profit group (Nature Conservancy) administers 3 percent of the recreation areas located in the Influence Zone.

The following table shows a breakdown of existing recreation area acreage in the Influence Zone by level of administering agency. State and local agencies provide slightly over 90 percent of the total area set aside for recreation in the Influence Zone.

Agency Level	Type of Rocreation Area	Area in Acres	Percent of Total
Federal	Wildlife Refuges	16,816	(10.6)
State	Parks	16,571	(10.5)
	Recreation Areas	41,759	(26.3)
	Forests	15,024	(9.5)
Local	Recreation Areas	68,058	(42.9)
Private	Nature Preserves	287	(0.2)
	TOTAL	158,515	(100.0)

WATER RECREATION OPPORTUNITIES About 87 percent of the recreation areas (59 of the 68) are located on water. Of the areas situated on water, 34 are located along rivers, 21 on lakes, 2 on the shore of Lake Michigan, and one on a reservoir site.

The 34 recreation areas located on rivers are distributed as follows: Illinois River - 16 areas, Mississippi River - 7, Rock River - 4, Kankakee River - 2, Fox River - 2, and one each on the Des Plaines, Green and Tippecanoe Rivers.

Provision is made for some water recreation activities at most of the recreation areas. Based on the information that is available, it appears that about 84 percent of the 64 areas reporting provide facilities for fishing, 70 percent have facilities for boating, while only 20 percent provide opportunities for swimming.

Recreation Areas Providing Facilities for
Water Recreation Activities

Agency	Swimming No.	Swimming %	Boating No.	Boating %	Fishing No.	Fishing %	Number of Areas Reporting
Federal	0	(0)	1	(17)	5	(100)	5
State	7	(14)	38	(76)	42	(84)	50
Local	6	(100)	6	(100)	6	(100)	6
Private	0	(0)	0	(0)	0	(0)	2
TOTAL	13	(20)	45	(70)	54	(84)	64

Recognizing that there are insufficient lakes and reservoirs in the Illinois River Basin the Illinois General Assembly in 1945 authorized construction of a state-wide system of conservation lakes. One of the purposes of this program was to help meet the need for water-related outdoor recreation. Some of these conservation lakes have been built. In addition, the Illinois General Assembly authorized a project for control of low water flow for recreational use of the Des Plaines River by construction of 13 dams of which 5 have been completed.

ACCESS TO RECREATIONAL WATER

The Illinois Department of Conservation started its program of acquiring access to recreation waters in 1957. The State now has more than 30 access projects mostly on the Mississippi but including some on the Illinois and other rivers. Most access land is made available by lease from the Corps of Engineers. Illinois enjoys good access on the Mississippi through the 13 navigation lakes or pools from East Dubuque to Alton. These areas are developed and maintained by the Corps of Engineers.

Wisconsin has also been active in acquiring access to recreational waters. As part of the 10-year, $50 million outdoor recreation program, the State of Wisconsin has been acquiring easements to provide public access to rivers and lakes.

RECREATION FACILITIES PROVIDED Recreation areas do not provide facilities equally for all recreation activities. Provision of facilities for some recreation activities and not others may either be due to the administering agency's policies or may be due entirely to the conditions or limitations peculiar to each site. Following is a tabulation of the number and proportion of recreation areas providing facilities for each type of recreation activity:

Number of Recreation Areas with Facilities
for Selected Recreation Activities
Illinois River Basin -- Zone of Influence

Activity[1]	Number of Areas	Percent of Total
*Swimming	13	(20)
*Fishing	54	(84)
Picnicking	52	(81)
Nature Study	46	(72)
*Boating	45	(70)
Hunting	11	(17)
Hiking and Riding	57	(89)
Camping	35	(55)

*Recreation activities directly related to water.

[1] Ranked in order of participation, from highest to lowest, by people in the United States during 1960-61.

It appears from the above that swimming opportunities are grossly inadequate in the Illinois River Basin.

ANNUAL VISITATION While information on annual attendance at recreation areas in the Influence Zone is available for only 32 areas, some generalizations can be made concerning average attendance at recreation areas in the three geographic zones. As would be expected, the data show that the highest average attendance per recreation area is in the Upper Zone, due mainly to the great population concentrations in the Chicago and Milwaukee Metropolitan Areas. The lowest average attendance is at recreation areas located in the Middle Zone where the population centers are not so large as the Chicago-Milwaukee and St. Louis concentrations at the northern and southern ends of the basin.

Annual Visitation by Zone, 1961

Zones	No. of Rec. Areas	Recreation Area Visitation Total	Average
Upper	19	4,551,000	240,000
Middle	10	836,000	84,000
Lower	3	628,000	207,000
TOTAL	32	6,015,000	190,000

NATURAL FEATURES PRESERVED Scenic landforms, water features, and woodland occur in varying association throughout the basin. Sometimes it is a particular combination of these features that lends recreational value to a site although it is often one feature which provides the dominant attraction while the others are necessary to provide natural surroundings. Most of the recreation areas throughout the basin possess a unique combination of the two natural features -- water and woodland -- that are found along the major stream valleys -- the Illinois, Kankakee, Fox, Mississippi and Rock Rivers.

National Wildlife Refuges

There are two National Wildlife Refuges within the Illinois River Basin Influence Zone, and these cover a total land and water area of nearly 17,000 acres. The two refuges contain five separate areas all of which are located on a river. The Mark Twain National Wildlife Refuge consists of four units located along the Mississippi River, and the Chautauqua National Wildlife Refuge comprises one unit along the Illinois River.

The refuges consist of islands and lowland areas along the rivers and natural and man-made lakes, swamps and marshes. Except for certain improvements needed to manage the areas for wildlife and recreation purposes, the refuges are maintained as nearly as possible in their natural state. While the primary purpose of a refuge is for the protection of wild birds and animals, the management policy of the Bureau of Sport Fisheries and Wildlife recognizes and allows recreational opportunities on refuges as a subordinate use when these uses do not interfere with the primary purpose of the refuge.

DISTRIBUTION The four refuge areas located on Illinois' western boundary along the Mississippi River are part of the Mark Twain National Wildlife Refuge which extends along the Mississippi River from Rock Island on the north to the junction of the Illinois and Mississippi Rivers on the south. They generally include those lands acquired by the Army in conjunction with the Mississippi River Navigation Channel Project. These four refuge units are set aside on lands over which the Department of the Interior has acquired administrative jurisdiction for wildlife management purposes under the terms of a cooperative agreement with the Army Corps of Engineers. They include a total land and water area of about 12,330 acres.

The second refuge, Chautauqua National Wildlife Refuge is located in the central part of the Illinois River Basin on the Illinois River. It has a total land and water area of about 4,500 acres, of which 80 percent is lake area. This refuge is on land acquired by the Bureau of Sport Fisheries and Wildlife.

FACILITIES PROVIDED The National Wildlife Refuges provide certain recreation facilities where these do not interfere with the primary purpose of the refuges. Facilities are available for the following recreation activities:

Activity[1]	Areas providing activity	
	Number	Percent
*Swimming	0	(0)
*Fishing	5	(100)
Picnicking	5	(100)
Nature Study	5	(100)
*Boating	1	(20)
Hunting	2	(40)
Hiking and Riding	5	(100)
Camping	0	(0)

*Recreation activities directly related to water.

[1] Ranked in order of participation, from highest to lowest, by people in the United States during 1960-61.

It should be pointed out that even though facilities for these activities may be provided at the refuge areas they are limited to small and particular parts of the refuge with most of the refuge being restricted to such use.

The above data indicate that wildlife refuges provide only limited facilities for water recreation activities.

VISITATION Attendance information available indicates that the refuge units in the Mark Twain National Wildlife Refuge had a total of 26,600 visitor days in 1960, while the Chautauqua National Wildlife Refuge had an annual attendance of 55,500 visitor days in 1960.

Mississippi River 9-foot Channel Project

The Corps of Engineers, Department of the Army, provides certain recreation facilities at the 12 pools which are found along the stretch of the Mississippi River contained in the Influence Zone. These pools were created by the dams and locks built along the Mississippi for navigational purposes.

Inasmuch as the development by the Corps of recreational facilities at these pools has been minimal, these areas have not been shown in Table I as existing recreational areas even though some facilities for recreation have been provided.

Some of these pools have already attracted a large annual visitation as, for instance, Pool 26 which is located just north of St. Louis between the points where the Illinois and Missouri Rivers join the Mississippi. This pool had a total annual attendance of 2.7 million visits in 1961. The annual attendance at the other 11 pools was 2.5 million visits in 1961, the total attendance at all the pools in 1961 being 5.2 million visits.

The recreation facilities provided as of 1961 are as follows: all of the 12 pools have reservoir access points; 6 pools offer public launching ramps; 6 pools provide a total of 22 picnic areas; 4 of the pools have swimming beaches; 2 of the pools offer 8 tent spaces; and only pool 26 offers guest rental units and a restaurant.

The State of Illinois has plans to develop recreation facilities at 10 of the Mississippi River Pools on the lands leased from the Corps of Engineers.

State Parks*

There are 15 State parks located within the Illinois River Basin Influence Zone. It is significant that all but one of the State parks in the Influence Zone offer some form of water recreation--3 parks are located around lakes, 10 are located along rivers (mainly the Illinois, Mississippi, and Rock Rivers), and one is located on the shore of Lake Michigan. Spitler Woods State Park is the only park not located beside a body of water.

Most of the State parks offer as scenic attractions large wooded tracts, steep slopes along bluffs, ravines, glaciated areas, as well as a wide variety of natural conditions due to both unusual topography and diverse plant cover. It should be stressed that although the kinds of natural features identified above may make an area suitable for many kinds of outdoor recreational activities, it is the occurrence of one or more of these scenic attractions in combination with water, either a stream, lake, pond, or reservoir, that is necessary to provide the unique and enjoyable setting required for outdoor recreation. Most of the State parks are located where such combinations of water and natural features occur.

In area the State parks in the Influence Zone comprise about 16,600 acres of which roughly 1,400 acres is water surface (3 lakes). Twelve of the State parks are located in Illinois, 3 are in Indiana. There are none in the Wisconsin part of the basin.

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*"State parks" are defined in this report as areas managed by the State primarily for outdoor recreation purposes and possessing relatively outstanding scenic and natural qualities. Two additional State parks, Lincoln's New Salem and Lincoln Trail Homestead, although primarily of historic significance, are included due to their locations in relationship to water and the varied recreation activities associated with the areas.

In addition to the above areas two State parks in Illinois, Lincoln's New Salem and Lincoln Trail Homestead, although primarily of historic significance, are included due to their proximity to water and the varied recreation activities associated with the areas. The two State parks, however, are not included in the statistical analysis contained in this report.

DISTRIBUTION Most of the State parks are located along the principal rivers in the northern part of the Influence Zone, mainly the Illinois, Kankakee and Rock Rivers.

Sixty percent of the State parks are located in the Upper Zone within roughly a 75 mile radius of Chicago, and these parks contain about two-thirds of the total State park acreage. That is, there are 9 State parks in this zone and these comprise 11,160 acres. Within the Upper Zone there are 2 clusters of State parks, one on the Illinois River containing 3 parks and one on the Rock River with 2 parks. The 4 other State parks in this zone are scattered around the south end of Lake Michigan (3 of them are in Indiana).

The Middle Zone contains 6 State parks and these account for 40 percent of all the State parks. These parks have about one-third of the total State park acreage, or about 5,400 acres. Their locations are scattered throughout the zone.

There are no State parks in the Lower Zone. That is, none of the State parks in this study are located within roughly a 70 mile radius of East St. Louis which is the second largest city in Illinois.

FACILITIES PROVIDED State parks provide facilities for the following recreation activities:

Activities[1/]	Areas providing activity Number	Percent
*Swimming	1	(7)
*Fishing	12	(80)
Picnicking	15	(100)
Nature Study	13	(87)
*Boating	10	(67)
Hunting	1	(7)
Hiking and Riding	13	(87)
Camping	12	(80)

*Recreation activities directly related to water.

1/ Ranked in order of participation, from highest to lowest, by people in the United States during 1960-61.

According to the above, State parks have inadequate facilities for swimming.

Attendance information available for 14 of the State parks shows annual attendance at these parks in 1961 to be roughly 3.2 million visits. Average annual attendance for the 14 parks in 1961 was about 225,000 visits per State park. The average for the State parks located near the Chicago area (the Upper Zone) was 300,000 annual visits compared with 94,000 annual visits average for State parks in the Middle Zone.

Recreation Areas*

There are 32 State recreation areas found in the Influence Zone, 30 of which are located in Illinois and one each in Indiana and Wisconsin. All except one of the recreation areas are located on water: 16 are situated along rivers, mainly the Illinois River, 13 are situated on lakes, one is on a reservoir, and one along the Lake Michigan shore. It is noted that while 97 percent of the recreation areas are located on water, only 4 of them, or roughly 12 percent, offer opportunities for swimming.

State recreation areas located in the Influence Zone have a total acreage of 41,760 acres of which about 18,000 acres are water surface. These areas preserve the natural features associated with rivers and lakes such as the valley bluffs, wooded ravines, shore and bottomlands. Because Illinois is a plains area of slight to moderate relief, unusual landform features such as bluffs, cliffs, canyons and gorges are mainly found in the major stream valleys.

DISTRIBUTION State recreation areas are concentrated along the Illinois River in the upper and central part of the basin. Nearly half of all the recreation areas are located along this river.

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* "Recreation area" is defined in this report as any area managed for primarily outdoor recreation purposes. In the case of State recreation areas, these are areas whose scenic resources do not qualify as outstanding.

The Upper Zone, which includes the Chicago Metropolitan Area, contains one-half of the existing State recreation areas and about 25 percent of the total acreage. Except for the several recreation areas concentrated along the Illinois River, the others are somewhat evenly distributed throughout the zone.

The Middle Zone has 41 percent of the recreation areas and 58 percent of their total acreage. Over half the recreation areas in this zone are concentrated along the Illinois River while the rest are scattered throughout the Middle Zone.

The Lower Zone, oriented toward the St. Louis and East St. Louis Metropolitan Area, has only 9 percent of the recreation areas and 16 percent of the total acreage. Their locations are dispersed in the zone.

FACILITIES PROVIDED State recreation areas provide facilities for the following recreation activities:

Activities[1]	Areas providing activity Number	Percent
*Swimming	4	(12)
*Fishing	28	(88)
Picnicking	30	(94)
Nature Study	22	(69)
*Boating	26	(81)
Hunting	8	(25)
Hiking and Riding	28	(88)
Camping	17	(53)

*Recreation activities directly related to water.

[1] Ranked in order of participation, from the highest to lowest, by people in the United States during 1960-61.

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Opportunities for swimming and boating are woefully inadequate at State recreation areas throughout the basin Influence Zone.

VISITATION In the 16 State recreation areas for which there was information, there was an annual attendance in 1961 of about 2,510,000 visits. This would average out to about 125,000 visits per recreation area in 1961.

State Forests

There are two State forests in the Influence Zone, one of which is located in southeastern Wisconsin and the other in central Illinois. The total area of the 2 State forests is about 15,000 acres.

Mason State Forest in Illinois is 5,524 acres in size. The recreation use of the forest is mainly hunting and camping.

Kettle Moraine State Forest (Southern Unit), which is an unusual geological formation of glacial origin in the Upper Zone, is the closest major recreation area to the heavily populated sections of Wisconsin. It comprises 9,500 acres of land including several small lakes and a 200 acre bog which features a tamarack swamp forest. Recreation activities for which facilities are provided on the forest include picnicking, camping, swimming, hiking, hunting, winter sports, nature study and fishing. It is estimated that annual attendance in 1962 reached 335,000 visits.

Canoe Route

The Little Fox River Canoe Route is located in Wisconsin just north of the Chain O' Lakes Area. The Route extends about 35 miles from Mukwonago on the north to the dam at Wilmot near the Illinois State line on the south. The Little Fox River is a slow, winding, unpolluted river which is popular for fishing. In addition, facilities for the following recreation activities are found at points along the route: picnicking, camping, boating, and swimming.

Local Recreation Areas

Of the total of 11 county recreation areas, 6 are located in northern Illinois and 5 in southeastern Wisconsin. County recreation areas comprise about 68,000 acres of which approximately 50,000 acres belong to the Cook County Forest Preserve.

Ten of the county recreation areas, or roughly 90 percent, are located in the Upper Zone. The locations of these county parks and forest preserves are concentrated between as well as within the Chicago and Milwaukee Metropolitan Areas. These 10 Upper Zone recreation areas contain 66,000 acres, or about 97 percent of the total acreage set aside for local recreation areas.

Only one local recreation area, the Rock Island County Forest Preserve, is located in the Middle Zone. This area is situated near the Rock River and is about 2,000 acres in size. None of the local recreation areas identified in this study are located in the Lower Zone.

Private Nature Preserves

There are two nature preserves in the Influence Zone both of which are located in Illinois. The Volo and Wauconda Bogs Nature Preserve is located in the Chain O' Lakes part of the Upper Zone. These bogs are administered privately by the Nature Conservancy and preserved as natural areas featuring tamarack trees and other bog species such as sundew and pitcher plant.

Rocky Branch Nature Preserve is also administered by the Nature Conservancy, a private conservation group. This area features rocky ravines and outcrops and includes an area of 180 acres.

RECREATION NEEDS

OBJECTIVE The objective in this section is to determine the need for additional recreation lands in order to meet present (1960) demand and future (2010) demand. In order to accomplish this, the following factors have been taken into consideration. Population growth and distribution by zone has been analyzed. Present and future recreation demand has been estimated from regional and national recreation participation rates. Total acreage needs are identified for the year 1960 and 2010 for each zone. Total needs, minus existing acreage, determines the additional recreation acreage needed for each of these years. In addition, water recreation demand is discussed and future needs are projected.

The Factors Influencing the Demand for Water-Oriented Recreation

Higher incomes, more leisure time, and greater mobility due to universal car ownership, plus an extensive highway network are the important factors which explain, at least partially, the great surge toward outdoor recreation. These factors provide the means but not the impetus for outdoor recreation. The impetus comes from a basic human urge to relax and play amidst natural surroundings for the sheer pleasure of it. For most people outdoor recreation provides an opportunity for self-expression and is an important source of personal satisfaction. People seek a pleasant, natural environment as the setting most conducive to achieving a sense of freedom, pleasure, and release, experiences which are highly valued in our urban society today. Also, outdoor recreation is largely family-based and gives each family an opportunity to engage in pleasurable activities as a unit. Outdoor recreation is a unifying experience which contributes to family life and further explains its great popularity as a family endeavor.

POPULATION WILL DOUBLE; OUTDOOR RECREATION PARTICIPATION WILL TRIPLE

The Outdoor Recreation Resources Review Commission has estimated that the total visitation to all types of parks and recreation areas will rise from 4.4 billion activity occasions in 1960 to 6.9 billion activity occasions by 1976. By the year 2000, this total could rise to over 12.4 billion occasions, an increase of 184 percent over participation in 1960. Between the years 1960 and 2000, when the Nation's population is expected to double, participation in outdoor pursuits will nearly triple. There is every reason to expect that this trend toward increased recreation activity will hold true for the Illinois River Basin.

WATER QUALITY IS THE KEY PROBLEM IN MEETING OUTDOOR RECREATION NEEDS

While the estimate of need in this section necessarily deals with the quantity of land deemed necessary to meet present and future recreation needs, this should not be the only nor necessarily the most important consideration. Equally important from the recreationist's standpoint is the quality of the recreation resource. Most people prefer natural surroundings which feature a clean lake or stream, a forest or woods to camp, picnic, or hike in, and interesting, if not outstanding, natural features such as waterfalls, bluffs, a gorge, or at least variation in topography.

The Demand for Water-Oriented Recreation

The recent studies of the Outdoor Recreation Resources Review Commission indicate that water recreation activities are among the most popular. The Commission found that water is a focal point of outdoor recreation:

> "Most people seeking outdoor recreation want water--to sit by, to swim and to fish in, to ski across, to dive under, and to run their boats over. Swimming is now one of the most popular outdoor activities and is likely to be the most popular of all by the turn of the century. Boating and fishing are among the top 10 activities. Camping, picnicking, hiking, also high on the list, are more attractive near water sites."

The Commission found that about 90 percent of all Americans participated in some form of outdoor recreation in the summer of 1960. In addition, the Commission's National Recreation Survey reports that 44 percent of the population prefer water-based recreation activities over any others.

Interest in water recreation activities is increasing. This trend is likely to continue as more young people acquire an interest in water sports. In fact, it is expected that by the year 2000 swimming will be the most popular outdoor recreation activity. The trend will be greatly accelerated if pollution control programs are successful in cleaning up streams, lakes, and seashore areas that are presently off limits for recreation, or are now so unattractive as to preclude many activities.

As with land, the usefulness of water for outdoor recreation hinges on three factors: (1) proximity to population; (2) physical and legal accessibility; and (3) suitability for recreation purposes. In the Illinois River Basin there is a favorable relationship between population concentrations and the physical location of recreation waters. The requirements of access and suitability are unfortunately not so favorable. Poor quality of water and limitations upon public access are serious problems in the study area. Public policy at all levels of government should be directed toward eliminating these barriers to outdoor recreation.

DEMAND FOR WATER RECREATION IS CONCENTRATED DURING THE SUMMER SEASON

Participation in water recreation activities is concentrated during the three summer months -- June, July and August. This is when peak attendance is reached at water recreation areas throughout the region. The table below shows for the North Central Region and for each activity type the average number of days a person participates in each activity during each season of the year. In addition, summer activity is expressed as a percentage of total annual activity.

SEASONAL VARIATION IN PARTICIPATION IN WATER RECREATION ACTIVITIES, 1960-61

North Central Region 1/

Water Recreation Activity	Number of Days of Activity per Person 2/					Summer as a % of Total
	Summer	Fall	Winter	Spring	TOTAL	
Swimming	4.63	.30	.09	.32	5.34	(87)
Fishing	2.05	.76	.29	.91	4.01	(51)
Boating (other than canoeing and sailing)	1.48	.48	.04	.21	2.21	(67)
Water skiing	.21	.04	-	.02	.27	(78)
Canoeing	.07	.02	-	.04	.13	(54)
Sailing	.05	.01	.01	-	.07	(71)

1/ North Central Region - consists of the States of Illinois, Wisconsin, Indiana, Michigan, Ohio, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

2/ Persons 12 years and over.

Note: Seasons are divided as follows:

Summer - June, July, August
Fall - September, October, November
Winter - December, January, February
Spring - March, April, May

Source: ORRRC Study Report 19, National Recreation Survey, Tables 1.01, 2.01, 3.01 and 4.01.

PROPORTION OF POPULATION ENGAGING IN WATER RECREATION ACTIVITIES IS EXPECTED TO RISE

Most Americans now engage in some form of water recreation activity. The proportion that do is expected to rise appreciably in the future assuming that adequate opportunities for water recreation are provided. However, if the quality of water used for recreation deteriorates it is likely that opportunities to engage in water recreation activities will be diminished in similar proportion. Conversely, if the quality of water available for recreational pursuits is improved to levels compatible with such use it is expected that much-needed opportunities for swimming and engaging in other water recreation pursuits will greatly expand in response to demand.

It must be pointed out that not only will there be many more people living in the Illinois River Basin during the next 40 years, according to all projections, but a greater proportion of the population will be engaging in water recreation pursuits. This trend is shown in the following table which shows for the United States the percent of the population 12 years of age and over participating in water recreation activities today and the proportion expected to participate by the year 2000. It is assumed that the proportion of the Illinois River Basin population participating in water recreation activities in the future (2010) will closely approximate the projected national percentages shown for the year 2000 for each activity type.

PERCENT OF PERSONS 12 YEARS AND OVER PARTICIPATING IN WATER RECREATION ACTIVITIES IN THE NORTH CENTRAL REGION (1960) AND THE U.S. (1960 and 2000)

Water Recreation Activities	Percent of Population Participating during summer (peak) season		
	North Central Region 1960	United States 1960	United States 2000
Swimming	42	45	63
Fishing	33	29	36
Boating (other than canoeing and sailing)	27	22	38
Water skiing	6	6	12
Canoeing	3	2	4
Sailing	2	2	4

Source: 1960 from ORRRC Study Report 19, Table 1.01
2000 from ORRRC Study Report 26, Table 10 (except canoeing and sailing which are estimated)

NUMBER OF PARTICIPANTS IN WATER RECREATION ACTIVITIES IS EXPECTED TO GREATLY INCREASE

The best information available as to the number of people who participate in swimming and other water recreation activities comes from the National Recreation Survey. The data obtained in this survey was collected and tabulated by the Bureau of the Census for the period 1960-61. In addition, the Outdoor Recreation Resources Review Commission (ORRRC) made projections of the percentage of the population that would engage in water recreation activities in the future (see the preceding table). This information has been used to develop the estimates presented in the table below.

The number of water skiing participants is expected to more than quadruple in the study area during the next 40-50 years. Swimming and boating, including sailing, is expected to attract more than three times as many participants by 2010 as there are today. And it is estimated that the number of participants who engage in fishing and canoeing activity will more than double in the next 50 years. These estimates are, of course, based upon the assumption that the quality and quantity of water recreation facilities remains about the same as today _on a per capita basis_. This means that the ratio between population and available water recreation opportunities would have to be about the same in the future as it is now in terms of (1) quality and quantity of facilities and (2) land and water area.

ESTIMATED NUMBER OF PERSONS 12 YEARS AND OVER PARTICIPATING IN WATER RECREATION ACTIVITIES DURING JUNE, JULY, AND AUGUST IN 1960 and 2010

Zone of Influence - Illinois River Basin

Water Recreation Activities	Number of Participants 1960	2010
Swimming	3,600,000	11,500,000
Fishing	2,800,000	6,600,000
Boating (other than canoeing and sailing)	2,300,000	7,000,000
Water skiing	500,000	2,200,000
Canoeing	300,000	700,000
Sailing	200,000	700,000

Source: 1960 - 8.6 million (estimated number of basin residents 12 years and over in 1960) x percent of persons 12 years and over participating in each water recreation activity in the North Central Region (see preceding table).

2010 - 18.3 million (estimated number of basin residents 12 years and over in 2010) x percent of persons 12 years and over participating in each water recreation activity (estimated participation is for the U.S. as shown in preceding table). It is assumed that ORRRC's estimated participation rates for the year 2000 will be the same in the year 2010.

Note: It should be pointed out that one person could be a participant in several water recreation activities in which case he would be counted as a participant in each activity type.

NUMBER OF OCCASIONS OF WATER RECREATION PARTICIPATION

The number of occasions of participation in water recreation activities is based on an estimate of the number of separate days on which persons 12 years of age and over engaged in a particular activity. The present and estimated future number of occasions of participation in each type of water recreation activity is presented in the table below.

The number of swimming occasions in the Illinois River Basin in 1960 was 40 million. Total swimming participation is expected to more than triple reaching 137 million occasions by the year 2000. It is anticipated that swimming will be the single most popular outdoor recreation activity in the future. People engaged in fishing in 1960 accounted for about 18 million total occasions. This is expected to rise to an estimated 35 million occasions by 2000. Boating activity (other than canoeing and sailing) generated 13 million occasions in 1960. By the year 2000 it is estimated that this will more than triple to reach 44 million occasions. Water skiing will experience almost a five-fold increase in the number of occasions of participation over the next 40 years. Whereas water skiers participated to the extent of nearly 2 million occasions in 1960, it is expected that this will rise to almost 9 million occasions by 2000. Canoeing occasions will more than triple from 600,000 occasions now to an estimated 2 million occasions by 2000. The number of sailing occasions is expected to increase from 400,000 occasions at present to an anticipated 1.4 million occasions by 2000.

NUMBER OF OCCASIONS OF PARTICIPATION IN WATER RECREATION ACTIVITIES, 1960 AND 2000

Zone of Influence - Illinois River Basin

	Annual	Summer - June, July August		
Water Recreation Activity	No. of Occasions[1] 1960 (in 000's)	No. of occasions[1] 1960 (in 000's)	No. of occasions[1] 2000 [2] (in 000's)	Percent Increase 1960-2000
Swimming	45,900	39,800	136,600	(243)
Fishing	34,500	17,600	35,300	(100)
Boating (other than canoeing & sailing)	19,600	12,700	44,500	(250)
Water skiing	2,300	1,800	8,700	(384)
Canoeing	1,100	600	2,100	(250)
Sailing	600	400	1,400	(250)
Total	103,500 *	73,000 *	228,700	

[1] Number of separate days on which persons 12 years and over engaged in activity.

[2] Assumes continuing 1960 quality and quantity of facilities available on a per capita basis.

* Column does not add to Total due to rounding.

Source: 1960 - derived from per capita participation rates (for each activity) x the 1960 population 12 years and over in the Zone of Influence (estimated at 8.6 million)

2000 - estimate based on expected percent increase for period 1960-2000 in number of occasions, as shown in Table 6 of ORRRC Study Report 26

FUTURE DEMAND FOR RECREATION WATER Based on the foregoing estimates, it appears that demand for water for recreational purposes throughout the Illinois River Basin will more than triple during the next 40 years. This means that water bodies which are not now available for recreation use, due either to pollution or lack of public access, will have to be cleaned up and access rights acquired if future demands are to be met.

In addition to a large increase in the amount of recreation water needed, there will be need for substantial increases in the amount of recreation land to meet both present and future needs. These needs will be analyzed in the remainder of this section.

Recreation Land Needs in the Upper Zone

THE ZONE OF GREATEST NEED The Upper Zone, encompassing the Chicago, Milwaukee and Gary urban complex is obviously the most significant zone in this study from the point of view of need for water-oriented recreation opportunities. The recreation resources in the zone have been usurped to a large extent by competing land using activities with the result that adequate opportunities for outdoor recreation are lacking in northeastern Illinois.

HIGH INTENSITY OF USE In this zone, the average annual visitation was 240,000 in 1961. This represents an average annual visitation of 194 persons per acre of available land in 1961.

ILLINOIS RIVER BASIN *population density*
ZONE OF INFLUENCE

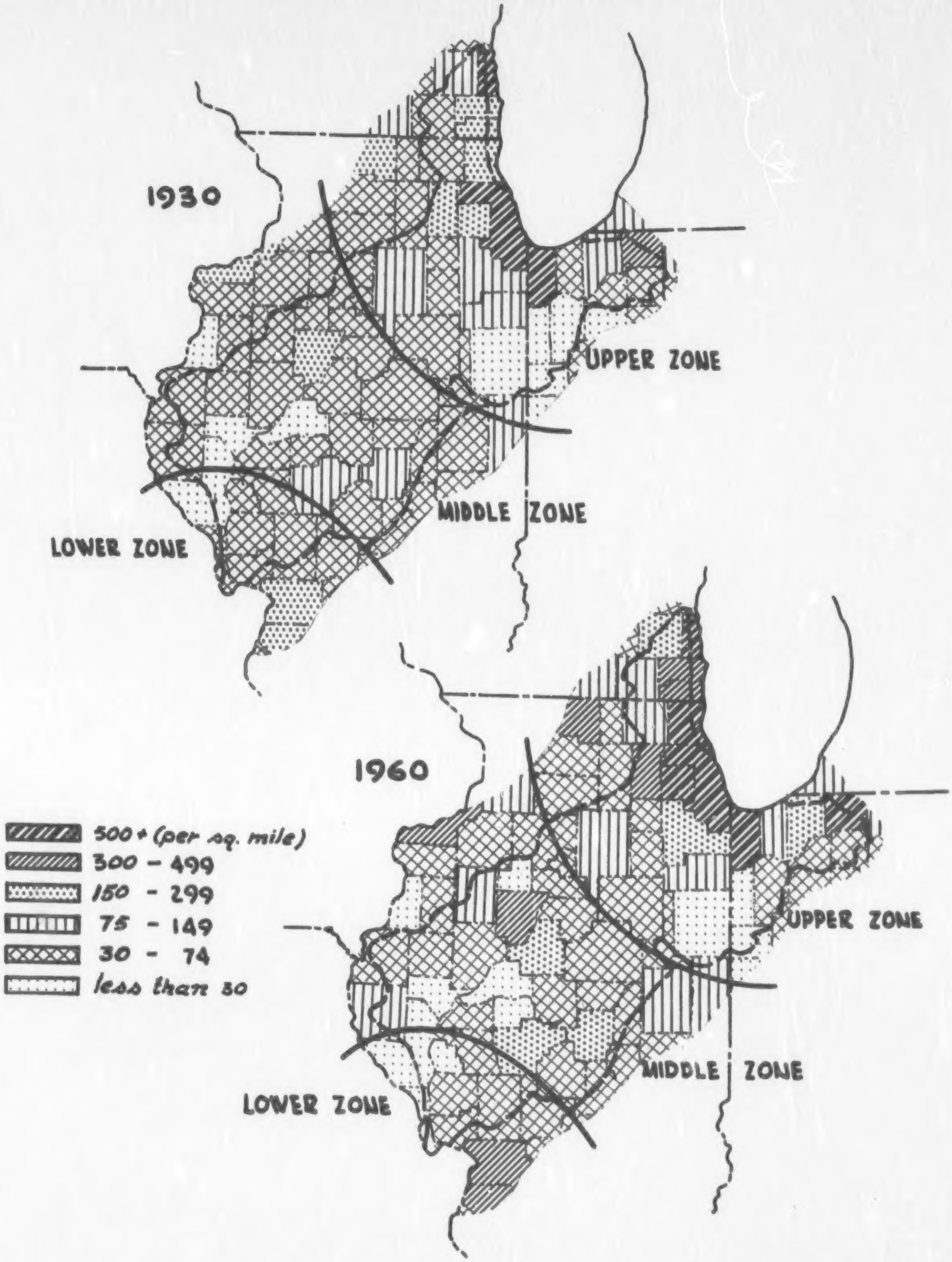
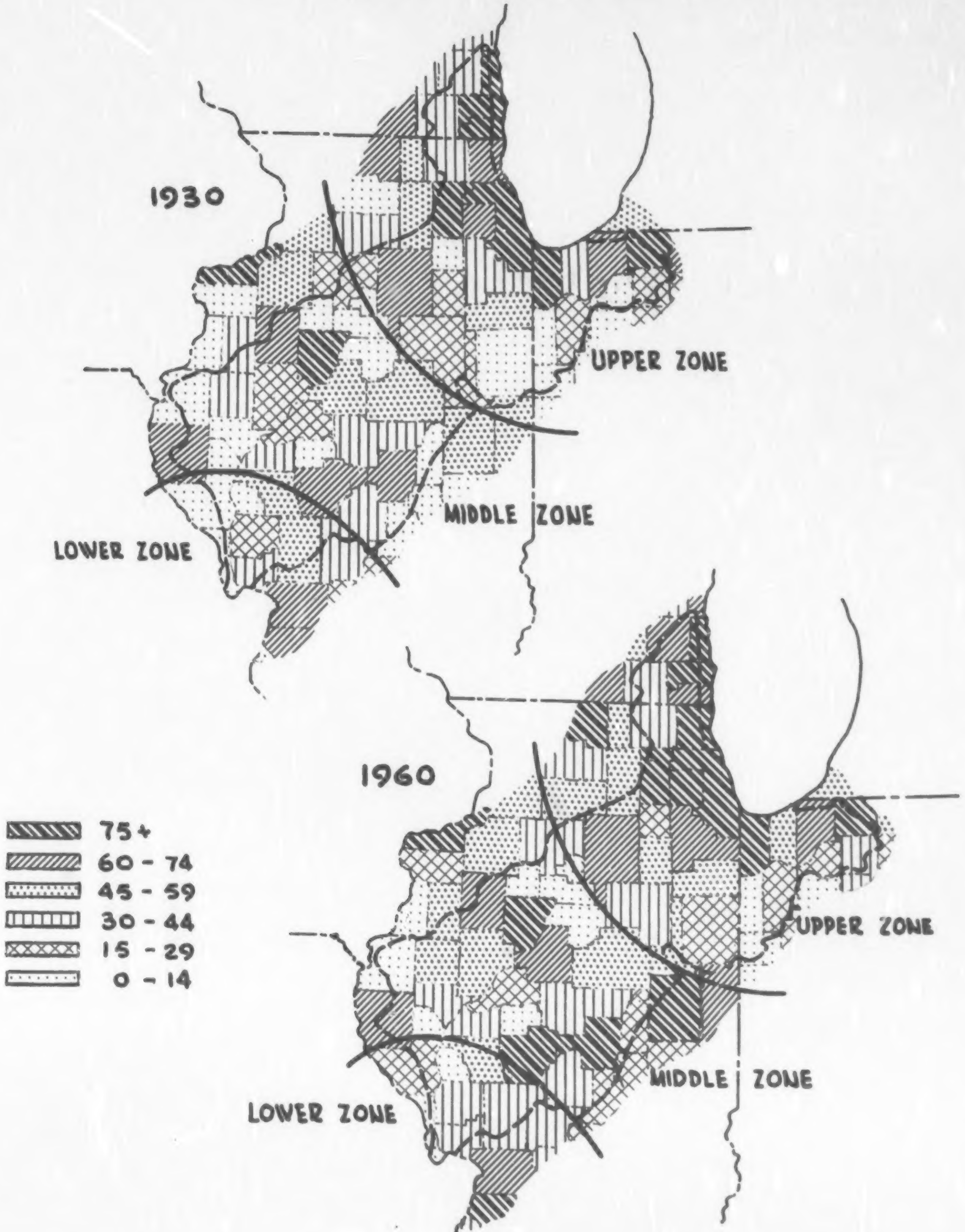

1930
UPPER ZONE
MIDDLE ZONE
LOWER ZONE
1960
UPPER ZONE
MIDDLE ZONE
LOWER ZONE
500+ (per sq. mile)
300 - 499
150 - 299
75 - 149
30 - 74
less than 30

PLATE NO. 1

ILLINOIS RIVER BASIN *% urban population*
ZONE OF INFLUENCE


1930
UPPER ZONE
MIDDLE ZONE
LOWER ZONE
1960
UPPER ZONE
MIDDLE ZONE
LOWER ZONE
▧ 75+
▨ 60 - 74
▤ 45 - 59
▥ 30 - 44
▩ 15 - 29
░ 0 - 14

80-6

PLATE No. 2

ILLINOIS RIVER BASIN *per capita income*
ZONE OF INFLUENCE

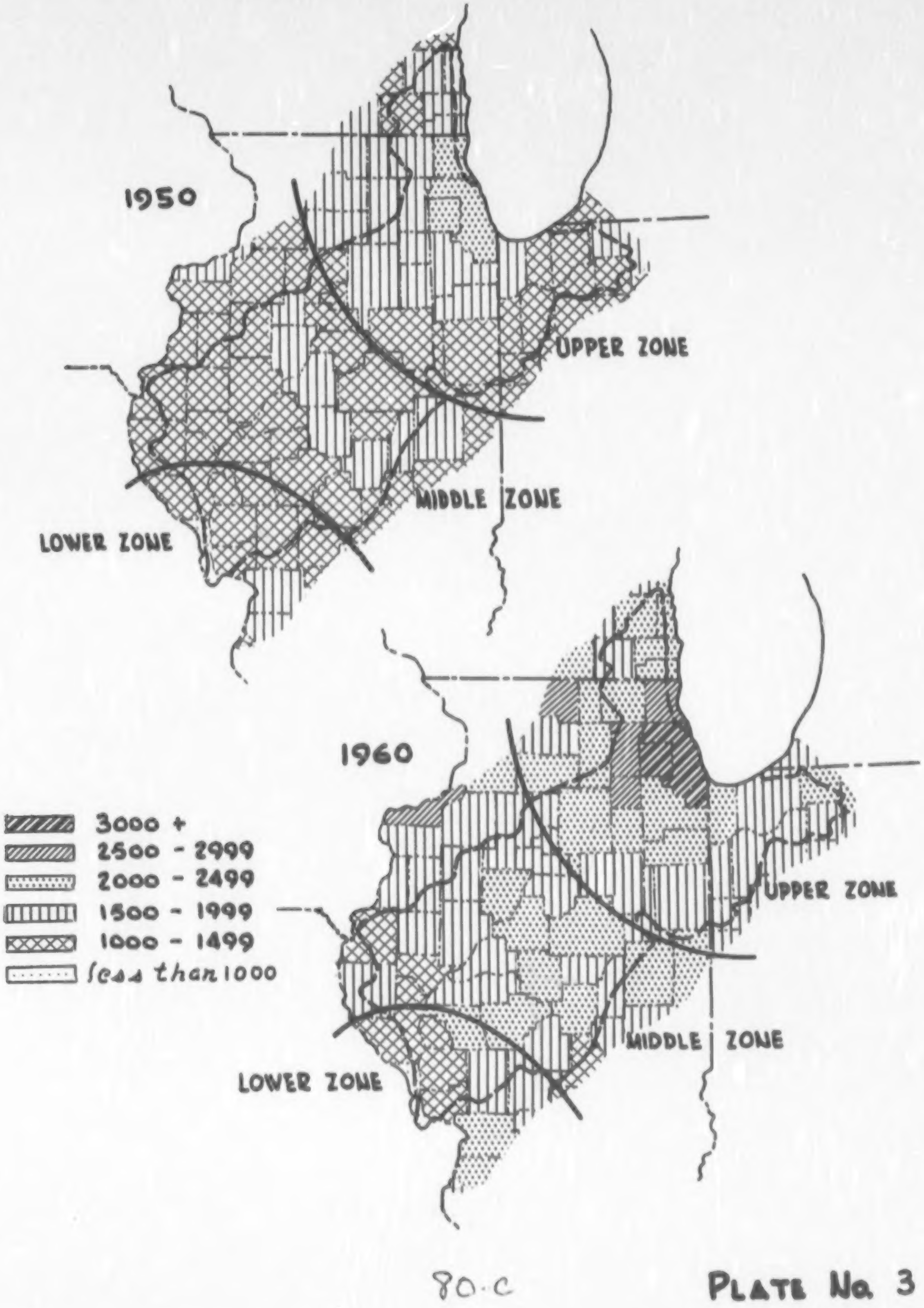

1950
UPPER ZONE
MIDDLE ZONE
LOWER ZONE
1960
UPPER ZONE
MIDDLE ZONE
LOWER ZONE
3000 +
2500 - 2999
2000 - 2499
1500 - 1999
1000 - 1499
less than 1000

PLATE No. 3

ILLINOIS RIVER BASIN *existing recreation land*
ZONE OF INFLUENCE

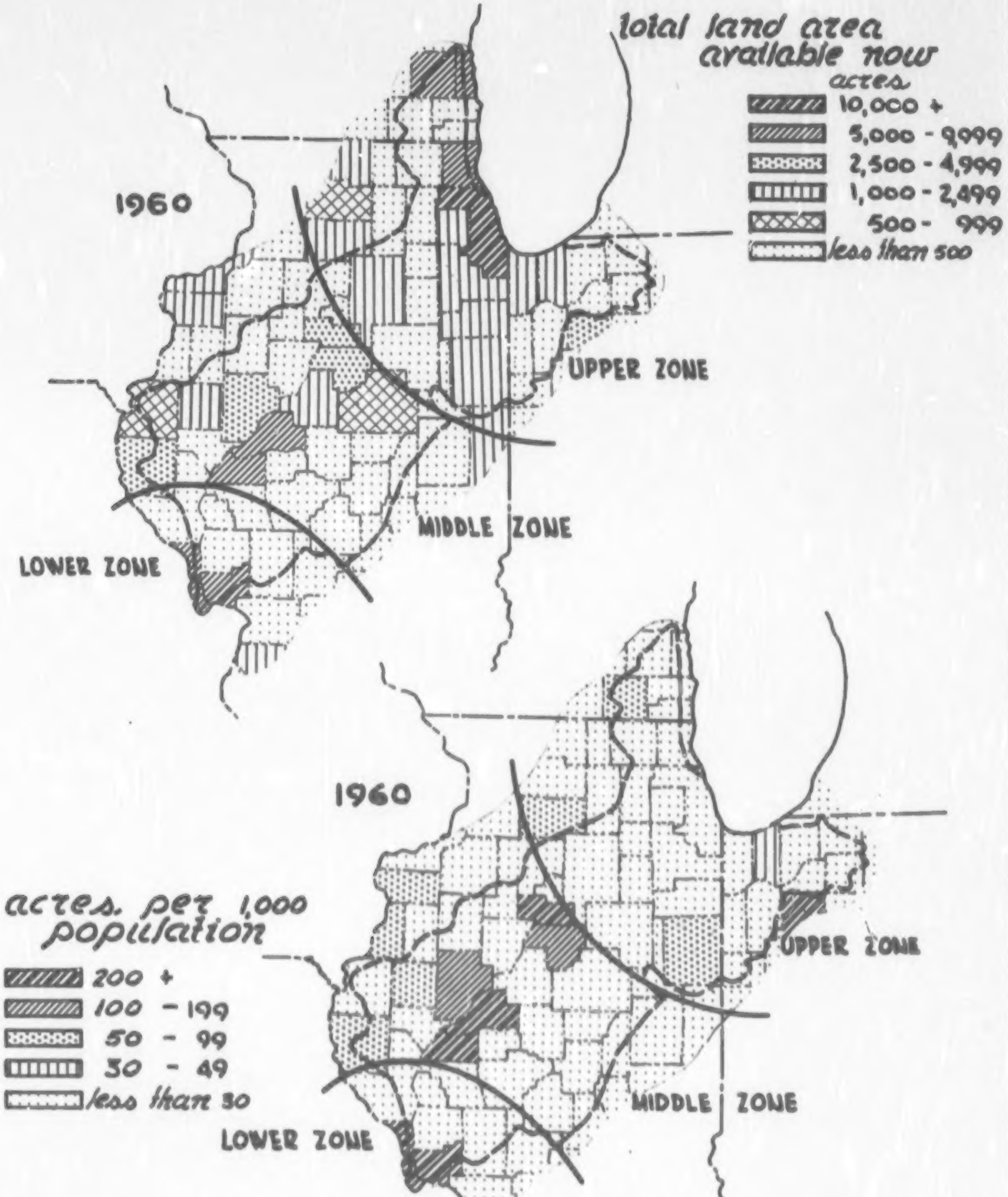
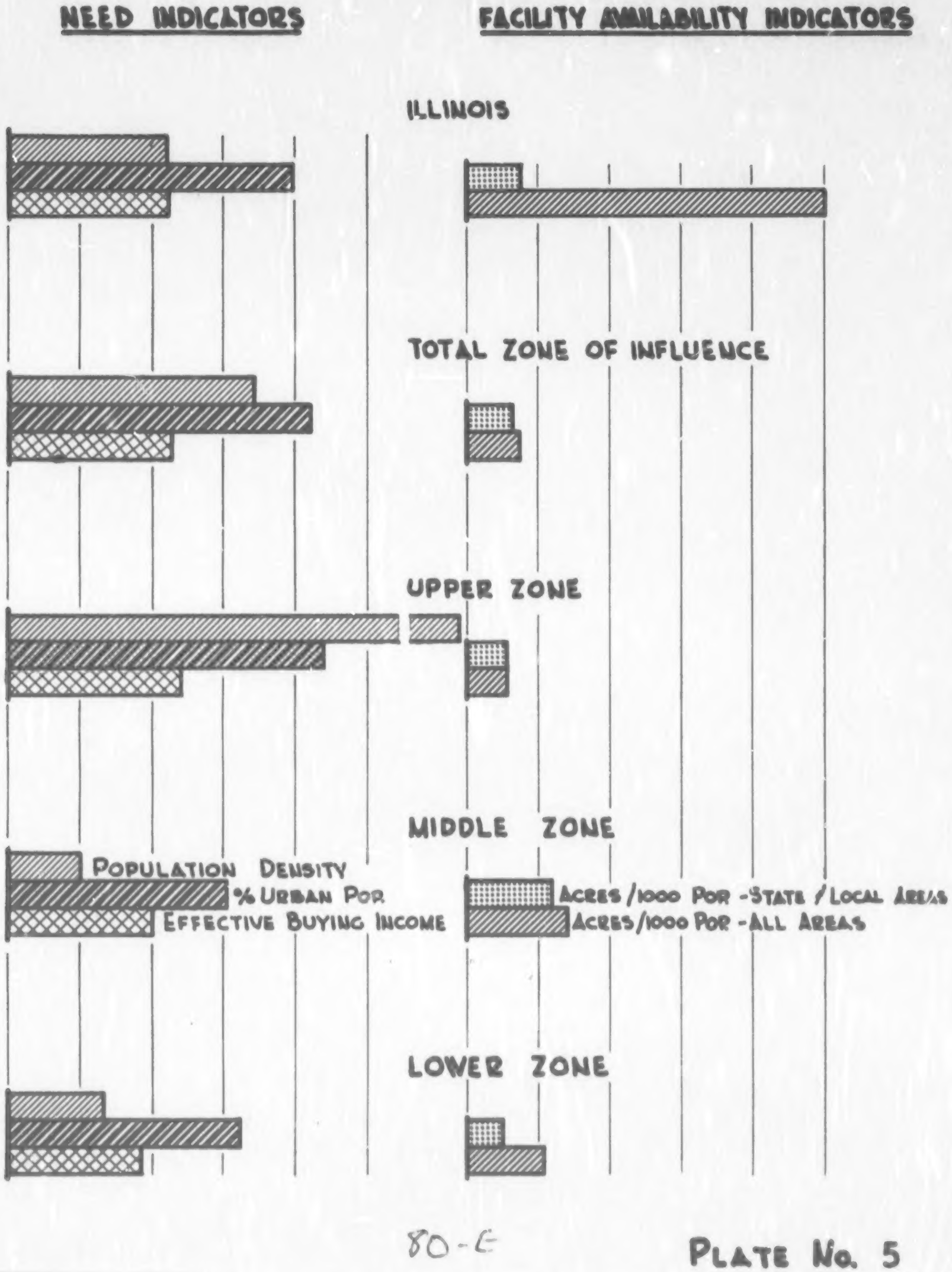

total land area available now
acres
▨ 10,000 +
▨ 5,000 - 9,999
▨ 2,500 - 4,999
▥ 1,000 - 2,499
▩ 500 - 999
▭ less than 500
1960
UPPER ZONE
MIDDLE ZONE
LOWER ZONE
1960
acres per 1,000 population
▨ 200 +
▨ 100 - 199
▨ 50 - 99
▥ 30 - 49
▭ less than 30
UPPER ZONE
MIDDLE ZONE
LOWER ZONE

PLATE No. 4

RECREATION NEED AND FACILITY AVAILABILITY INDICATORS - STATE OF ILLINOIS AND ZONE OF INFLUENCE, ILLINOIS RIVER BASIN -1960



80-E

PLATE No. 5

This intensity of use is heavier than desirable because, in most cases, continued use at this intensity will result in the destruction of the resource. The Resources for the Future publication Land for the Future defines heavy use as " . . . with typically 50 to 100 uses or visits per acre per year. Camps and picnic areas, popular lakes and stream edges, and some other types of areas would fall into this use class."

If we were to assume that the 160,000 available acres of recreation land in this zone were capable of sustaining heavy use, their total annual visitation would amount to about 9,850,000. This maximum capacity would permit each resident of the zone only 1.05 outdoor recreation experiences at any publicly administered facility per year aside from vacation trips. This compares to 1.54 visits per resident in the northeastern States including Illinois, Wisconsin, Indiana, etc., and a national figure of 1.52 visits per resident to State park areas alone in 1960.

1960 NEEDS

To provide the minimum opportunity for residents of the Upper Zone of Influence of the Illinois River Basin to participate in outdoor recreation activities at a level comparable to the national average of use in 1960, areas and facilities are required to accommodate an additional 4,450,000 visits annually. Translating this into terms of acreages indicates that an estimated additional 99,200 acres of land are needed for recreation use.

NEED IN 2010 By the year 2010, assuming 1960 requirements are met, additional visits would approximate 16,150,000. If 1960 standards were applied to this number of potential visits, the requirement in terms of additional recreation lands needed would total about 393,200 acres.

COMPARISON OF ESTIMATES OF NEED FOR ADDITIONAL RECREATION LANDS IN THE UPPER ZONE

Source of Standards Used	1960 (acres)	2010 1/ (acres)
Northeastern Illinois Metropolitan Area Planning Commission 2/	89,500	384,200
Bureau of Outdoor Recreation	99,200	393,200

1/ Assumes that 1960 needs are met prior to 2010.

2/ "Open Space in Northeastern Illinois." The requirements for Local Recreation Areas, Urban Parks and City-wide Parks have been omitted so that the figures can be used comparatively with those derived from this report. While local urban recreation areas serve a definite social need, studies of the problems related to their supply and the demand for them are handicapped by the lack of essential basic data pertaining to availability and use.

Some observations that can be drawn from this comparison are that (1) It seems to be generally agreed that the need for additional park and recreation area lands in this zone now is somewhere in the range of 100,000 acres; (2) The requirement for additional lands will probably be in the neighborhood of 400,000 acres in 2010 assuming that present planning standards are considered sufficient at that time.

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Recreation Land Needs in the Middle Zone

EXISTING SITUATION In the Middle Zone of the Illinois River Basin there are some 48,300 acres of publicly owned recreation lands available to the 1,622,000 residents within the zone. The percentage of increase of population in this zone was 27.5% as compared to an increase of 41.8% throughout the Influence Zone of the Illinois River Basin, 45.3% in the Upper Zone and 35.1% in the Lower Zone. Average visitation to those areas for which visitation data is available (but excluding the Federal Wildlife Refuges because use of those areas for general recreation is limited), was 780,000 visits in 1961. This occurred on 20,911 acres of land or 37.2 visits per acre. It is interesting to note that this is roughly one quarter the intensity of use experienced in the areas in the Upper Zone.

1960 NEEDS No additional land acreage is required to meet present needs in this zone. Estimates of need range from a present surplus of some 14,500 acres to a deficit of 8,500 acres with the median showing a surplus of 3,000 acres over that presently available.

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COMPARISON OF ESTIMATES OF NEED FOR ADDITIONAL RECREATION LANDS IN THE MIDDLE ZONE

Source of Standards Used	1960 (acres)	2010 1/ (acres)
Northeastern Illinois Metropolitan Area Planning Commission 2/	2,300	63,000
Bureau of Outdoor Recreation	3,000(surplus)	63,900

1/ Assumes that 1960 needs are met prior to 2010.

2/ Refer to footnote 2/ same tabulation Upper Zone.

NEED IN 2010 Using the national average of 1.5 recreation visits per capita per year, acreage needs would range from 44,400 acres to 83,300 acres, with a median of 63,900 acres. This is almost the same as the requirements derived from the Northeastern Illinois Metropolitan Area Planning Commission standards.

Recreation Land Needs in the Lower Zone

The lower segment of the Zone of Influence of the Illinois River Basin is to a large extent influenced by the urban and suburban populations in and around the St. Louis Metropolitan Area.* Although the base population in the Lower Zone is smaller than the Upper or Middle Zones, the population density and percent that is urban is slightly higher than that of the Middle Zone. There are only five existing recreation areas in this zone. Visitation figures are available for only three of these but the figures that are available indicate a rather high intensity of use.

ANNUAL VISITATION The total visitation to the three areas on which records are available was 628,000 in 1960 and their land area was 5,458 acres. The visitation per acre to these areas was 115.1, almost four times the intensity of use experienced in the Middle Zone and about three-fifths of that of the Upper Zone.

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*This study does not include in its analysis either the population or recreation resources of the portion of the St. Louis Metropolitan Area within the State of Missouri. Only the population of that part of the metropolitan area in the State of Illinois is included in this analysis.

If the recreation use of the two existing Federal Wildlife Refuges can be assumed to be comparable to that received on those in the Middle Zone (8.1 per acre) the total use on existing facilities in the Lower Zone would amount to roughly 691,000 visits annually, or about 1.04 visits per resident each year.

1960 NEEDS To raise the opportunity to participate in outdoor recreation experiences to an extent comparable to the national average (1.5) without increasing the intensity of use of the existing areas would require, to meet 1960 needs, between 4,500 and 9,000 additional acres of recreation lands, with a median of 6,800 acres.

NEED IN 2010 By 2010, assuming the 1960 needs were met prior to that year, the need will have grown to between 20,600 and 42,200 additional acres with a median requirement of about 31,000 acres.

COMPARISON OF ESTIMATES OF NEED FOR ADDITIONAL RECREATION LANDS IN THE LOWER ZONE

Source of Standards Used	1960 (acres)	2010 1/ (acres)
Northeastern Illinois Metropolitan Area Planning Commission 2/	6,000	32,700
Bureau of Outdoor Recreation	6,600	31,000

1/ Assumes that 1960 needs are met prior to 2010.

2/ Refer to footnote 2/ same tabulation "Upper Zone."

A ~~c~~Comparison of Recreation Land Needs and Potential Supply

In the following section potential new recreation sites are identified and proposed additions to existing recreation areas are discussed. These potential additions to the existing inventory of recreation lands serving the basin Influence Zone total slightly more than 192,000 acres. This figure represents only one-third of the total estimated Influence Zone need of 587,000 acres by the year 2010. See the table below for a more detailed comparison of estimated need and potential supply in each zone.

A COMPARISON OF THE PRESENT AND FUTURE NEEDS FOR RECREATION LANDS AND THE POTENTIAL SUPPLY OF RECREATION LANDS
ILLINOIS RIVER BASIN - ZONE OF INFLUENCE

	UPPER ZONE (acres)	MIDDLE ZONE (acres)	LOWER ZONE (acres)	TOTAL INFLUENCE ZONE (acres)
Estimated Need for Additional Recreation Lands				
In 1960	99,200	--	15,000	114,200
In 2010	393,200	48,500	31,000	472,700
TOTAL NEEDS	492,400	48,500	46,000	586,900
Potential Supply of Recreation Lands				
Proposed Additions to existing recreation areas	23,530	550	40	24,120
Potential Sites identified in this study	131,270	18,850	10,460	160,580
TOTAL POTENTIAL SUPPLY	154,800	19,400	10,500	184,700

POTENTIAL RECREATION DEVELOPMENT

Expansion and Development of Existing Areas

State of Illinois. The following recreation areas in Illinois will be increased in size by the following acreage figures appearing in a report prepared by the Illinois Department of Conservation which identifies proposed land acquisitions as of June 30, 1962.

According to the above mentioned report, McLean County will also have a State developed lake and park comprising 733 acres of land.

The Department of Conservation further indicates that three areas totalling 340 acres will be cooperatively developed by the State and the Forest Preserve District of Cook County. An official of the Cook County Forest Preserve District indicates that their continuous land acquisition program has projections for 55,000 acres by 1964 (the present acreage is 50,000), and a target of 60,000 acres by 1965. A water acreage total of about 2,200 acres is part of the 1965 goal, which leaves a net proposed increase in land area of 7,800 acres.

State of Indiana. The Indiana Division of State Parks has recommended that two additions be made to recreation areas within the Illinois River Basin Influence Zone.

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State of Wisconsin. The Wisconsin Conservation Department has scheduled the expansion of Kettle Moraine State Forest as part of

Wisconsin's Ten-Year Program. Wisconsin's State Parks and Recreation Division has revised the boundaries of the Southern Unit of the Kettle Moraine State Forest to include a gross area of 23,000 acres, of which they may eventually own about 20,000 acres.

PROPOSED EXPANSION OF EXISTING RECREATION AREAS

			Existing		
Recreation Areas by Zone	No. on Map	Acreage to be Added	Acreage	1961 Annual Visits (in 000's)	Visits per Acre
UPPER ZONE		23,534			
Illinois					
Chain O' Lakes State Park	16 S	124	1,514	218	144
Illinois Beach State Park	14 S	200	1,651	607	368
Kankakee River State Park	49 S	110	2,196	419	191
Cook County Forest Preserve	39 L	10,000	50,000	n.a.	
Indiana					
Indiana Dunes State Park	42 S	5,000	2,182	378	173
Bass Lake State Beach	43 S	100	20	52	260
Wisconsin					
Kettle Moraine State Forest	5 S	8,000	9,500	280	35
MIDDLE ZONE		550			
Illinois					
Johnson Sauk Trail State Park	73 S	80	332	111	335
McLean County Conservation Area	87 S	320	563	n.a.	
Spring Lake State Park	93 S	150	325	123	378
LOWER ZONE		40			
Illinois					
Pere Marquette State Park and Conservation Area	110 S	40	5,180	440	85
TOTAL		24,124			

n.a. - not available

DISTRIBUTION BY ZONES

The proposed additions to existing recreation areas are distributed among the zones as shown below.

	No. of Areas	Area to be Added (acres)	Percent of Total
Upper Zone			
Illinois	4	10,434	43.3
Indiana	2	5,100	21.1
Wisconsin	1	8,000	33.2
		23,534	97.6
Middle Zone			
Illinois	3	550	2.3
Lower Zone			
Illinois	1	40	0.1
	11	24,124	100.0

This table indicates that the increase in acreage of existing recreation facilities will take place almost entirely in the Upper Zone in and near the Chicago Metropolitan Area. About 40 percent of the additional acreage will be at recreation areas located in Illinois.

Potential Recreation Areas

(Refer to Table IV, POTENTIAL RECREATION AREAS IN THE ILLINOIS RIVER BASIN INFLUENCE ZONE)

There are 42 potential recreation areas that have been identified in the Zone of Influence. All sites are to be located on water, as follows: 30 on river sites, 5 on the Lake Michigan Shore, 3 on lakes, and 4 at reservoirs. The 30 river sites are distributed as follows: 10 sites along the Mississippi River (at the navigation pools), 9 on the Fox River and tributaries, 6 on the Des Plaines River and tributaries, 2 along the Kankakee River and tributaries, one on the Illinois and 2 sites on other basin streams.

The 42 potential sites total roughly 188,000 acres in area, of which 24,000 acres or about 13 percent is water surface area.

In terms of distribution there will be 29 potential recreation areas, roughly 70 percent of the total, located in and near the Chicago Metropolitan Area in the Upper Zone of the basin. In area they will comprise a total of 134,000 acres, which is about 72 percent of the acreage of all potential areas. These sites are concentrated along the lakeshore and the river valleys such as the Fox, Des Plaines, and Kankakee Rivers.

Nine potential sites, or about 20 percent of the total, are to be located in the Middle Zone mainly at the navigation pools along the Mississippi River. These areas will total roughly 34,000 acres, which represents 18 percent of the total potential acreage.

Four sites have been identified in the Lower Zone and these represent 10 percent of the total number of sites. They include 10 percent of the total potential acreage in the Zone of Influence, or roughly 19,000 acres.

State of Illinois

Fox Chain O' Lakes Area. (4 areas): There are 4 potential sites in the Fox Chain O'Lakes Area that have been identified and recommended for State or local acquisition. These are Northern Grass Lake Marsh Area, Sullivan and Fish Lake Area, McHenry Fox River Marshes, and Fox River Bend Area. These 4 sites include a total of about 21,000 acres. Three of the potential sites are located along the Fox River and the fourth site is situated around 2 small lakes.

The Fox Chain O' Lakes is located near the Wisconsin state line, about 40 miles northwest of Chicago. It is the only district of natural lakes in Illinois.

This area contains two important attractions -- water and rolling wooded topography. The natural features of the area, the lakes, streams, woods and hills, are among the most attractive to be found in the basin. The Northeastern Illinois Metropolitan Area Planning Commission has found that no area in Northeastern Illinois has greater potential for meeting the varied recreation needs of the metropolitan area than the Chain O' Lakes area.

Lake Michigan Shore. (all shoreline recommended to be acquired): In recognition of the overwhelming needs of the 6,000,000 people living in the Chicago Metropolitan Area for access to public beaches, two recent recreation studies of northeastern Illinois have recommended that all of the Illinois portion of the Lake Michigan shore that is not already publicly owned be acquired for recreation use. Inasmuch as 16 miles of the Lake Michigan shore within the Chicago city limits is maintained for public use, the proposals for lakeshore acquisition are mainly for that part of the shore between Chicago and the Wisconsin border.

The potential sites include 4 principal shore locations -- Illinois Beach State Park additions to the north and south of the existing park, Lake Bluff, Fort Sheridan (if and when it is declared surplus to the needs of the Army), and all other shoreline that can be acquired for public recreation. A total of 7,500 acres of shoreline has been recommended for acquisition.

Eroding bluffs are found along the Lake Michigan shore. The most valuable ravines in the Chicago area for recreational purposes are those along the North Shore of Lake Michigan between Evanston and Waukegan. The shoreline has been identified as the most unique and valuable recreation resource in the Chicago Metropolitan Area. Local plans envisage the eventual development of a continuous park extending from Chicago's shore park north to the Wisconsin state line.

Des Plaines River Valley and Tributaries. (6 areas): There are 6 potential sites along the Des Plaines River and its tributaries comprising a total area of nearly 25,000 acres. The potential sites are: Des Plaines River Valley, Des Plaines River Gravel Island and Bluffs, Upper West Branch Du Page River Valley, Lower East Branch Du Page River Valley, Spring Creek Valley and Woodland, and Hickory Creek Valley and Woodland.

These sites are located within 25 to 40 miles of Chicago. Four of them are located southwest of the city, one is west and the sixth is northwest of Chicago. Two of the sites are along the Des Plaines River and 4 are on its tributaries. All of the potential sites are located on water.

The Des Plaines River Valley site includes a 25 mile stretch along the Des Plaines River from Wisconsin on the north to Cook County on the south. The southern half of this valley site includes the largest remaining forest area in the Chicago Metropolitan Area that is not publicly owned. There are proposals to develop flood-control reservoirs along the northern half of the river valley site.

Both the Spring and Hickory Creek valley sites provide space for a reservoir or floodwater impoundment. Both sites border existing forest preserves.

The Des Plaines River Gravel Island and Bluffs site contains several miles of the most beautiful section of the Illinois and Michigan Canal and the high wooded bluffs above the river feature splendid views of the surrounding country. These bluffs extend along the Des Plaines River from the mouth of the Du Page River southward to and including the existing Channahon State Park.

The Upper West Branch and Lower East Branch Du Page River Valley sites are the 2 largest of a total of 10 possible sites identified in Du Page County by the Northeastern Illinois Metropolitan Area Planning Commission. The Upper West Branch site is a floodplain bordering a small forest preserve. The Lower East Branch site is a floodplain containing gravel pits.

Fox River Valley and Tributaries. (8 areas): There are 8 potential sites along the lower stretch of the Fox River and its tributaries between the City of Elgin and the point where the Fox joins the Illinois River near the City of Ottawa. The potential sites, which include a total of almost 50,000 acres, are: South Elgin Pits Area, Upper Fersons and Mill Creek Area, Upper Blackberry Creek Valley, Big Rock Creek Valley (proposed impoundment), Somonauk Lake (proposed impoundment), Lower Fox, Indian Lake (proposed impoundment), and Indian Island.

All of the potential sites are situated within 30 to 60 miles and to the west and southwest of Chicago. Three areas are located along the Fox River while the other 5 are situated on tributaries of the Fox River.

The bluffs, canyons and caves along the lower Fox are an important recreational resource. Geological formations and erosional remnants along the stream valley are of great interest in this area.

The sites identified on the tributaries of the Fox River include mainly wooded hills and valleys, floodplains, and some swampland. Three of the tributaries of the Lower Fox have been identified as excellent sites for artificial lakes -- Somonauk, Big Rock, and Indian Creeks.

Thorn Creek and Plum Creek Valley. (2 areas): These 2 potential sites include a total of about 5,800 acres. They are both located about 30 miles south of Chicago near the Indiana border.

Plum Creek Valley contains the second largest woodland area not yet in public ownership in the Chicago Metropolitan Area. It has been identified as a promising recreational site.

Thorn Creek has been recommended for acquisition as a river floodplain recreation area. If developed for other uses it would constitute a potential floodplain problem area.

Kankakee River Valley. (2 areas): Two sites totalling 12,250 acres are situated along the Kankakee River. These are the Momence Bottoms site and the Will County Strip Mines Area. They are located about 40 miles south and southwest respectively of Chicago.

The Momence Bottoms site, extending from the Indiana border to the town of Momence, contains a distinctive floodplain forest of river birch.

The Will County Strip Mines site is an abandoned strip mine area with many artificial ponds and hills. The northern part is often flooded and is at the point where the Kankakee and Des Plaines Rivers join to form the Illinois River.

Mississippi River Pools. The State of Illinois Department of Conservation has plans to lease and develop for recreational purposes certain lands adjacent to the navigation pools along the Mississippi River. These pools were created by a series of dams and locks along the river built and maintained by the Corps of Engineers for navigational purposes. While the Corps of Engineers provides some recreational facilities at the 12 river pools found within the Influence Zone, the State of Illinois plans to take major responsibility for developing these into recreation areas on lands leased from the Corps of Engineers.

The state now leases from the Corps of Engineers nearly 32,000 acres at 10 pools, 14,000 acres of which is water surface.

The locks and dams provide a series of slack water pools which are attractive for practically all types of outdoor recreation. The scenic attractions along the valley of the Upper Mississippi River enhance the value of these sites for recreational development. Development of the Great River Road will offer improved access to these recreation areas.

The pools within the Influence Zone extend from Pool No. 14 on the north, located several miles above the City of Rock Island to Pool No. 26 on the south, located a few miles above St. Louis, Missouri, and the confluence of the Missouri and Mississippi Rivers.

Oakley Reservoir. The site selected by the Corps of Engineers for the Oakley Dam is on the Sangamon River 5 miles northwest of the City of Decatur. The proposed reservoir would include about 2 miles of the upstream end of the existing Lake Decatur. The reservoir, authorized by Congress in the Flood Control Act of 1962, is to function primarily as a flood control project but with a conservation pool included for water supply and recreational purposes. The reservoir area at the top of the conservation pool would be 2,400 acres. The withdrawal of water from the conservation pool would minimize pool fluctuation in Lake Decatur, thereby maximizing the recreation values of the lake. About 1,000 acres of land surrounding the pool will be acquired for public recreational use, with provision for water-oriented recreation activities.

The Oakley site is attractive with varied vegetative cover on land that would be above anticipated high water.

Cahokia Creek Project. The proposed project is located on Cahokia Creek in Macoupin County. The proposal is to construct a dam below the confluence of Big Branch Creek with Cohokia Creek. The site is about 55 miles south of Springfield, Illinois, and 40 miles northeast of St. Louis.

Recreation would be one of the basic purposes to be served by the reservoir. The proposed reservoir, which would have a surface area of 2,600 acres, is well suited to recreation use. Cahokia Creek flows through a floodplain. The shoreline of the impoundment would rest against the well-defined slopes which delimit the extent of the floodplain. The slopes, as well as some large adjacent upland areas, are well covered with timber.

Great River Road. A bill now before Congress would authorize Federal aid for the Great River Road proposed as a continuous highway traversing the Mississippi Valley from Canada to the Gulf of Mexico. Where possible, it would follow existing roads located for the most part at the base of the bluffs which border and form the Mississippi River Valley. Throughout its extent in Illinois, the river meanders from side to side in its floodplain, which is seldom more than 4 miles wide and in places is less than one mile in width. At the places where the main stream flows against the Illinois shore there is no intervening floodplain and it is possible to have a true riverside drive, sometimes almost at water level and sometimes at higher level. Often there are vantage points affording a wide panorama over the fertile bottomland farms that extend to the fringe of cottonwood and other trees lining the river with a line of bluffs along the Iowa or Missouri side of the river in the distance. To the east the scenery includes the wooded or pastured slopes of the bluffs and, at certain places, rock palisades are exposed. The Great River Road besides being a scenic highway would offer improved access to the recreation areas that are to be developed at the many navigation pools along the Mississippi River.

Illinois-Mississippi Canal and Lake Sinnissippi. The Illinois-Mississippi Canal, extending 67 miles in length from the vicinity of Hennepin on the east to Rock Island on the west, provides an east-west waterway between the Illinois and Mississippi Rivers. The canal, first opened in 1907, has not been navigable since it was closed in 1951. The 32 locks in the main canal are not now operable. The canal is from 3 to 5 feet deep and the water is about 80 feet wide at the surface. The right-of-way width of the canal is from 300 to 400 feet, all in public ownership.

There is a 30 mile feeder canal joining the Illinois-Mississippi Canal to Lake Sinnissippi, a lake located to the north and formed by a dam erected across the Rock River at Sterling. The feeder canal enters Lake Sinnissippi just to the east of the City of Rock Falls. Sinnissippi Lake is about 2,400 acres in size.

The Illinois-Mississippi Canal passes through a wide variety of unspoiled scenic land, prairie farms, wooded hills, villages and marshes. The canal follows an ancient Mississippi River bed now part of the Bureau Creek and Green River drainage. From the Illinois River the canal follows the Bureau Creek watershed west, rising in elevation 203 feet in 18 miles through a series of 21 locks. The adjacent lands are broken into narrow farmed valleys with steep wooded slopes well suited for extensive recreational use.

The western section follows the Green River to Rock River through a rolling terrain, dropping 44 feet in 13½ miles through 5 locks. The topography in this section makes it suitable for extensive recreation use only.

The feeder canal was constructed on comparatively level land making it well suited for recreation use. For 40 miles on the feeder canal and Summit Pool there is no portage making it ideal for safe non-power boating and canoeing. The towpaths are ideal for hiking and cycling.

The long-range development program for the canal and lake include 10 large parks, over 100 smaller parks, scenic drives, youth hostel centers, game refuges, tow boats, and nature areas. It is anticipated that development of these facilities will require the purchase of approximately 10,000 acres of additional land. One of the prime objectives is to keep the canal as a hiking and boating thruway.

State of Indiana

Lakeshore Indiana Dunes. This potential site has been proposed as a National Lakeshore Recreation Area and it would include approximately 9,000 acres. The site includes the only portion of Indiana's Lake Michigan shoreline that still has relatively natural recreation and wildlife values suitable for preservation. The remaining undeveloped portion of the Indiana Dunes is contained in a narrow band about a mile wide along the south shore of Lake Michigan adjacent to the existing Indiana Dunes State Park.

Behind the broad sand beach lie exceptional sand dunes extending back a mile from the shoreline. Some of the dunes reach heights of 200 feet and their shapes and locations are constantly changing as the sand shifts in response to the prevailing winds.

The five and a half miles of beaches, dunes and marshes are of great importance as a recreation resource inasmuch as nowhere on the Great Lakes is there so much undeveloped sand beach so close to so many people. The site is about 35 miles south and east of Chicago.

Prairie Lake State Park. This potential site would include roughly 4,200 acres and would be located on West Creek Ditch near the Illinois border. The site is about 20 miles southwest of Gary, Indiana.

State of Wisconsin

The National Park Service, in its recent study for an Ice Age National Scientific Reserve, proposed that portions of the Kettle Moraine area in southeastern Wisconsin be included as one of the 4 key areas in the Reserve. Kettle Moraine State Forest embraces about 53,000 acres of this outstanding glacially-derived landscape in its Northern and Southern Units, but only about half of this acreage is now owned by the State of Wisconsin.

PROPOSED ACREAGE OF POTENTIAL RECREATION AREAS
IN THE ZONE OF INFLUENCE

Major Location Groups	Number of Potential Areas	Proposed Land & Water Area Acreage	Proposed Land & Water Area Percent
UPPER ZONE			
Illinois			
Fox Chain O' Lakes Area	4	20,950	
Lake Michigan Shore	4	7,480	
Des Plaines River Valley & Tributaries	6	24,550	
Fox River Valley & Tributaries	8	49,680	
Thorn Creek and Plum Creek Valleys	2	5,760	
Kankakee River Valley	2	12,250	
	26	120,670	64.4
Indiana			
Lakeshore and River Sites	2	13,200	7.0
Wisconsin			
One area	1	200	0.1
Subtotal	29	134,070	71.5
MIDDLE ZONE			
Illinois			
Mississippi River Pools	7	22,900	
Other	2	11,420	
Subtotal	9	34,320	18.3
LOWER ZONE			
Illinois			
Mississippi River Pools	3	13,980	
Other	1	5,200	
Subtotal	4	19,180	10.2
TOTAL	45	187,570	100.0

PROBLEMS RELATED TO RECREATION DEVELOPMENT OF RESOURCES

One of the foremost problems that must be faced within the Illinois River Basin and its Zone of Influence is that of water pollution.

Studies conducted by the Department of Health, Education and Welfare's Public Health Service found that the Chicago Sanitary and Ship Canal, the Calumet River, the Calumet-Sag Channel and the Illinois River are tragically polluted for some distance downstream from the Chicago area. As our studies show, the areas wherein recreation use of the water is unsafe are not limited to the Illinois River but include many of its tributaries as well.

SCENIC VALUE OF WATER HAS BEEN COMPROMISED

In many areas the damaging effects of this pollution is not limited to a chemical or biological threat to the health of people coming into direct contact with the water. It is also the unwholesome effect experienced when a person's aesthetic sensibility is crudely violated by extensive despoliation of our scenic resources. If throughout its length the river were cleaned up and made scenically pleasing it would be of recreational value. But even from that aspect its potential has been severely compromised through long use as a convenient public and private dump for wastes and trash.

A very major step toward improving the recreation and environmental situation in the Chicago area particularly, and in many other areas along the Illinois and its tributaries, would be taken if the pollution were reduced to the point where it was no longer odorous and the stream beds and banks were cleaned up so that they were scenically attractive. Flood plain zoning programs and local enforcement of health and sanitation codes can contribute substantially to that end.

PUBLIC ACCESS TO WATER IS NEEDED

Individual awareness of the value of water as an adjunct to recreation pursuits has resulted in the private acquisition and development of private cottages and summer homes on the shorelines of a great many lakes, ponds, rivers and streams. This along with commercial and industrial demand for water and shoreline space, has resulted in severe restriction of public access to water surfaces. This situation has reached the point that, in some areas, private cottage sites appear in two, three or even more tiers back from the shoreline. Recreation planners have been pointing to this situation for a number of years with varying degrees of response. The crux of the problem is that public interest develops only when the situation has developed beyond the easily remedial point. It is the responsibility of public administrators and planners in the State and local governments to foresee such problems before they occur and to realize that it is far less difficult and much more effective for them to provide public access prior to complete private development.

There are two types of land that should be designated top priority for acquisition for public recreation purposes, these are lands near population centers and lands adjacent to clean (or capable of being made clean) water. In addition, responsibility for acquisition and development of sufficient recreation areas to meet foreseeable needs rests on both the State and local governments.

NEED FOR RECREATIONAL USE OF WATER SUPPLY RESERVOIRS Outmoded concepts relating to the types of use that may be made of water supply reservoirs still persist throughout most of the Nation. Inconsistencies in laws and policies affecting multiple use of water supply impoundments and the contributing watersheds are numerous.

In an article that appeared in the June 1962 issue of "Recreation," the magazine of the National Recreation Association, it was stated: "Where recreation functions are given proper recognition, rather than permitted to flourish surreptitiously, the water user may actually receive better sanitary protection at the source under multiple use. A basic principle of any recreation development is to limit entrance and exit points in order to gain effective control of recreation users." In many areas, laws require that domestic water supplies be fully treated before human consumption regardless of type or degree of previous use. The over-protection of water supply sources at the expense of public recreation opportunity may well open a subject meriting careful re-examination.

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PROGRAMS AND RESPONSIBILITIES FOR PRESERVING WATER RECREATION RESOURCES

Federal, State and Local Responsibilities for Controlling Water Pollution to Improve Water for Recreation and Other Uses

According to the Recreation Advisory Council [1] all Federal agencies having responsibilities in the field of water pollution should coordinate such activities with each other. In turn, these activities should be coordinated wherever possible with State and local agencies having responsibilities in the field of water pollution in order to further a unified and effective effort in the following endeavors:

1. Development of comprehensive river basin water pollution control programs that protect outdoor recreation water uses;
2. Development of a set of principles for water quality standards for outdoor recreation, wildlife, fish, and other aquatic uses which could be applied where appropriate for the particular use involved;
3. Development of water quality monitoring systems for the protection of outdoor water recreation areas;
4. Development of water pollution research programs benefiting outdoor recreation, wildlife, fish, and other aquatic life;
5. Provision of technical services in water pollution prevention and control relating to outdoor recreation, wildlife, fish and other aquatic life; and

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[1] Recreation Advisory Council Circular No. 3, "Policy Governing the Water Pollution and Public Health Aspects of Outdoor Recreation," April 9, 1964.

6. Development of a set of principles as guides to the adoption of local standards by the appropriate State agencies to protect outdoor recreation uses and Federal investments for recreation in water resource developments.

FEDERAL RESPONSIBILITIES Pointing out the need for Federal, State and local governments to assume their respective responsibilities for controlling water pollution to conserve and improve water for all uses including recreation, the Recreation Advisory Council has suggested the following role for Federal agencies. Federal agencies should make every effort to implement the late President Kennedy's policy that the Government should set an example in the abatement of water pollution by:

1. Demonstrating leadership in adopting pollution control programs to assure that Federal activity, or other activities on Federally owned lands, does not pollute waters associated with such areas;
2. Promulgating effective rules and regulations for controlling water pollution on lands under their management;
3. Including adequate safeguards in comprehensive water resource developments to enhance and protect recreation waters and to assure that the recreation benefits assigned to the developments will not be impaired by pollution;
4. Utilizing acceptable principles of water quality standards in programming water pollution control measures and managing water pollution control programs benefiting recreation;

5. Establishing reliable monitoring systems to provide the data needed to make the water quality management decisions required to protect water recreation uses and investments;

6. Informing the public of damages to recreation values resulting from water pollution; and

7. Encouraging and supporting adequate State, interstate, and local water pollution control programs and cooperating fully with the appropriate agency in their implementation and management.

STATE AND LOCAL RESPONSIBILITIES

In addition, the Recreation Advisory Council has encouraged the State and local governments to discharge their responsibilities as follows:

1. Enact and enforce adequate water pollution control legislation;

2. Develop programs to control pollution originating on publicly owned lands under their jurisdiction;

3. Participate in interstate or regional compacts to develop pollution control programs for interstate waters;

4. Cooperate with the responsible Federal water pollution control agency in the adoption and vigorous enforcement of adequate water quality standards for recreation and fish and wildlife; and

5. Develop and sustain a program of public information so that enlightened public opinion can be brought to bear on the problems of pollution abatement and control.

Programs for Preservation and Control of Water Recreation Resources

The Outdoor Recreation Resources Review Commission has recommended in their report to the President and to the Congress, Outdoor Recreation for America, that the following actions be taken to achieve the objective that adequate opportunities for water-based outdoor recreation be made accessible to all Americans. While these suggested actions apply to the entire Nation they are both useful and valid as guides for action in the Illinois River Basin as well.

The suggested actions to meet this objective include:

1. Immediate action should be taken by Federal, State, and local governments to acquire additional beach and shoreline areas. The need for acquisition of additional public shoreline areas has been a matter of increasing public concern since the end of World War II.

   Highest priority should be given to acquisition of areas located closest to major population centers and other areas that are immediately threatened. The need is critical -- opportunity to place these areas in public ownership is fading each year as other uses encroach.

2. Acquire access areas and water resources for public use. The general public is often excluded from waters that are legally open to common use. State action to acquire access areas may be necessary to make these waters available to the public. Where

needs are particularly pressing, the entire land and water area may need to be acquired for public use by purchase (including condemnation), gift, or lease.

3. Secure public rights to cross private lands. A number of State and local governments have purchased access easements over private lands to increase the availability of water for public use. Easements, leases, and similar arrangements are often useful supplements to outright purchase and provide effective means of gaining access to waters that would otherwise be unavailable to the public. Easements or other rights short of outright acquisition should be made perpetual if possible, since limited or terminable leases or other arrangements give no permanent security for public use.

4. Control development of lake and river shorelines. As demand increases, conflicts between private ownership and public use of water areas will become more acute. Private property rights must, of course, be respected, but the rights of the public to use and enjoy publicly owned resources must not be restricted by lack of access. Under certain conditions zoning may help to resolve these conflicts. In areas not already fully developed, zoning may be an effective tool to prevent undesirable development or location of certain kinds of commercial, industrial, or residential facilities. Private establishments may thus be concentrated at suitable locations where they will not interfere with public

facilities, rather than scattered along an entire shoreline. The remaining open areas may then be purchased, leased, or subjected to easements for public use. The State of Wisconsin, for example, requires that as a condition of subdivision approval all lake and stream shore plats include provision for public access to the low water mark at not more than ½ mile intervals along the lake or stream by means of a right-of-way at least 60 feet wide. Similar provisions are being adopted in other States under State laws or local ordinances.

5. Construct and maintain public roads and access facilities to take full account of recreation needs and uses. Where they do not impair scenic or other natural assets, roads should provide direct access to recreation water resources. Access roads should be sufficiently wide to permit use by vehicles, bicycles, and pedestrians, or side trails for pedestrians and cyclists should be provided.

6. Review the status of public waters now closed to outdoor recreation use to determine whether such restrictions can be modified or removed. The status of water areas in public ownership but now unavailable for outdoor recreation should be reviewed to determine whether they can be opened to selected recreation activities without harm to other public interests. For example, recreation activities are not permitted at many municipal water supply

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reservoirs. While it may not always be possible to allow swimming at such areas, fishing and some forms of boating might be permitted.

ACTIONS TO MAINTAIN SUITABILITY OF WATER AREAS FOR OUTDOOR RECREATION

In addition, the Outdoor Recreation Resources Review Commission has recommended that public agencies promote and maintain the suitability and attractiveness of water areas for outdoor recreation activity. Actions which they recommend to achieve this objective include the following:

1. In programs and projects for pollution control, recreation should be recognized as a motivating purpose and as a necessary objective in the allocation of funds therefor. Demands upon water for all purposes are soaring. Water is used in tremendous quantities for carrying away sewage, for diluting chemical wastes, and for many other municipal and industrial requirements. The resulting pollution problem has aroused widespread national concern. Existing treatment facilities and practices are often inadequate to maintain the quality of water for recreation purposes. Thus many beaches in metropolitan areas have been closed to recreation use because of domestic and industrial pollution.
2. Soil erosion should be controlled to prevent siltation. In all parts of the country improper land use contributes to the siltation of streams, lakes, and reservoirs and thus impairs the recreation values of these waters. Comprehensive watershed management and

soil conservation practices should be extended as a means of reducing siltation and increasing the recreation potential of the Nation's water resources.

3. Flood-plain zoning should be encouraged. Many attractive areas along our rivers and streams are lost to outdoor recreation by default. Some are subject to intermittent flooding and therefore present substantial risks for private investment for industrial or residential purposes. The attractiveness of these sites for residences or their location along navigable waterways often brings about pressures for protecting them from floods by dams, levees, or channel improvements. In some instances these improvements are necessary and warranted. In many cases, however, it may be more economical and efficient from a public point of view to restrict the use of flood-plain areas to purposes like outdoor recreation which require only limited development and which are not frustrated by periodic floods.

   In cooperation with the six metropolitan counties and the U.S. Geological Survey, the Northeastern Illinois Metropolitan Area Planning Commission is engaged in a five year program of identification of lands subject to periodic flooding. This program offers many opportunities for public and private benefit.
   It is an approach to the solution of flood control problems in that it will permit communities to regulate new development through

flood plain zoning. It has been estimated that approximately 10% of the land in the northeastern Illinois area is subject to periodic flooding. If this 10% were to become open space, a great deal more than a simple reduction in future flood damages would be accomplished.

4. Public action is needed to resolve conflicts between recreation and other uses of water, as well as among recreation activities themselves. Recreation use of water areas faces competition from many sides. Attractiveness of recreation areas may be reduced by the presence of industrial and manufacturing plants on adjacent sites. However, sound planning and coordination will assure that areas of particular value for outdoor recreation are maintained in as attractive settings as possible.

   Different forms of recreation are also sometimes in conflict. The safety and attractiveness of a beach for bathing, for example, are substantially reduced by unregulated motorboating. The use of such a device as activity zoning can do much to resolve these problems. Unless prompt action is taken, however, dangerous conditions will become even worse as the demand for water-related outdoor recreation continues to climb.

5. Certain rivers should be preserved in their free-flowing condition and natural setting. In early 1961, the Senate Select Committee on Natural Water Resources recommended that certain streams be preserved in their free-flowing condition because their natural

scenic, scientific, esthetic, and recreational values outweigh their value for water development and control purposes now and in the future.

Further studies should be made to identify rivers or parts thereof that have these values.

6. *Recreation should be recognized as a beneficial use of water.* If public demands for outdoor recreation are to be satisfied, the right of the public to use water for outdoor recreation must be promptly recognized.

Federal Programs and Recreation Development

URBAN PLANNING AND OPEN SPACE PROGRAMS Under the open space provisions of the Housing Act of 1961, the Housing and Home Finance Agency is authorized to make grants to local public bodies to acquire land to be used as permanent open space. These grants can cover up to 30 percent of the total cost. This agency is also authorized to award Federal grants to qualifying State, metropolitan, regional, and local planning organizations to (1) aid in solving planning problems resulting from the increasing concentration of population in urban areas, (2) facilitate comprehensive planning for urban development on a continuing basis, and (3) to encourage the establishment and improvement of planning staffs at the State and local levels. Grants under this program cover up to two-thirds of the estimated cost of the work for which the grant is made.

SMALL WATERSHED PROGRAM AND RECREATION Several programs within the Department of Agriculture offer opportunity to realize recreation benefits on formerly active farm lands. The Watershed Protection and Flood Prevention Act (PL 566 with amendments) should prove to be one of the most important authorizing acts available to the Department of Agriculture from the point of view of providing needed outdoor recreation facilities. This act permits the direct participation of the Federal government, in cooperation with local interests, in providing recreation facilities in conjunction with work undertaken under this program.

State Programs for Acquisition and Development of Recreation Areas

Several States have passed bond issues for the acquisition of recreation and open space lands. Those that have taken the lead are New York, New Jersey, Pennsylvania, Wisconsin and California. The favorable reception given these programs in these States reflects the general feeling that the time for action is now. The public is aware of the fact that available open space is disappearing rapidly now. The title, "Now or Never" was used by the State of New York during the promotion of that State's bond issue. This was not considered to be an over-dramatization in that State and it would not be in many others, including a major portion of the Illinois River Basin.

TABLE I

EXISTING RECREATION AREAS IN THE ILLINOIS RIVER BASIN INFLUENCE ZONE

Name	Location Map No. [1]	Location Zone [2]	Size in Acres Land & Water	Size in Acres Water Surface [3]	Location on Water	Visitation in 1961 (in 000's)
STATE OF ILLINOIS						
FEDERAL						
Wildlife Refuge						
Mark Twain National Wildlife Refuge						
Keithsburg Unit	79 N	Middle	1,500		River (M)	n.a.
Gardner Unit	101 N	Middle	4,250		River (M)	n.a.
Calhoun Unit	107 N	Lower	4,580		River (M)	n.a.
Batchtown Unit	108 N	Lower	2,000		River (M)	n.a.
Chautauqua National Wildlife Refuge	96 N	Middle	4,486		River (I)	56
			16,816			
STATE						
Parks						
Lowden Memorial State Park	28 S	Upper	207	15	River (R)	175
White Pines Forest State Park	29 S	Upper	385		River (Rt)	552
Kankakee River State Park	49 S	Upper	2,196		River (K)	419
Buffalo Rock State Park	68 S	Upper	43		River (I)	159
Starved Rock State Park	69 S	Upper	1,437		River (I)	866
Matthiessen State Park	70 S	Upper	175		River (I)	104
Johnson Sauk Trail State Park	73 S	Middle	396	64	Lake	111
Black Hawk State Park	76 S	Middle	207		River (R)	118

n.a. - Not available

Footnotes appear at the end of the table.

TABLE I (cont.)

Name	Location Map No. 1/	Location Zone 2/	Size in Acres Land & Water	Size in Acres Water Surface 3/	Location on Water 4/	Visitation in 1961 (in 000's)
STATE (cont'd)						
Parks						
Spitler Woods State Park	89 S	Middle	203			30
Spring Lake State Park	93 S	Middle	1,557	1,232	Lake	123
Sid Simpson State Park	102 S	Middle	20		River (M)	n.a.
Siloam Springs State Park	105 S	Middle	3,025	68	Lake	88
			9,851	1,379		
STATE						
Recreation Areas						
Illinois Beach State Park	14 S	Upper	1,651	L	Lakeshore	607
Chain O' Lakes State Park	16 S	Upper	4,214	2,700	Lakes	218
McHenry Dam State Park	17 S	Upper	95	M	Reservoir	76
Rock Cut State Park	26 S	Upper	634	158	Lake	n.a.
DuPage County Conservation Area (Palm Track)	35 S	Upper	170	50	Lake	n.a.
DuPage County Conservation Area (Mallard Lake)	37 S	Upper	110	30	Lake	n.a.
Wolf Lake Conservation Area	40 S	Upper	580	450	Lake	49
Iroqucis County Conservation Area	48 S	Upper	1,920			n.a.
Channahon Parkway State Park	57 S	Upper	450	230	River (I)	65
Wm. G. Stratton State Park	59 S	Upper	7		River (I)	n.a.
Gebhard Woods State Park	60 S	Upper	30		River (I)	104
Illinois-Michigan Canal State Park	61 S	Upper	100		River (I)	n.a.
Illini State Park	62 S	Upper	406		River (I)	192
Fox River State Park	67 S	Upper	64		River (F)	n.a.
Lee County Conservation Area	71 S	Middle	2,330		River (G)	n.a.

TABLE I (cont.)

Name	Location Map No. 1/	Location Zone 2/	Size in Acres Land & Water	Size in Acres Water Surface 3/	Location on Water 4/	Visitation in 1961 (in 000's)
STATE (cont'd)						
Recreation Areas (cont'd)						
Delabar State Park	82 S	Middle	89		River (M)	17
Sparland Conservation Area	83 S	Middle	1,281	1,100	River (I)	n.a.
Spring Branch Conservation Area	84 S	Middle	410	350	River (I)	n.a.
Woodford County Conservation Area	85 S	Middle	2,897	2,790	River (I)	n.a.
Marshall County Conservation Area	86 S	Middle	2,600	2,000	River (I)	n.a.
McLean County Conservation Area	87 S	Middle	733	170	Lake	n.a.
Kickapoo State Park	88 S	Middle	1,539	120	Lake	81
Weldon Springs State Park	91 S	Middle	120	28	Lake	85
Rice Lake Conservation Area	94 S	Middle	2,618	2,200	River (I)	n.a.
Anderson Lake Conservation Area	97 S	Middle	2,007	1,086	River (I)	n.a.
Sanganois Conservation Area	98 S	Middle	6,634	4,100	River (I)	n.a.
Argyle Lake State Park	99 S	Middle	1,051	117	Lake	125
Pere Marquette State Park and Conservation Area	110 S	Lower	5,180		River (M)	440
Beaver Dam State Park	112 S	Lower	425	59	Lake	58
Grand Marais State Park	114 S	Lower	1,125	213	Lake	131
			41,470	17,951		
Forest						
Mason State Forest	95 S	Middle	5,524			n.a.
LOCAL						
Recreation Areas						
Winnebago County Forest Preserve	27 L	Upper	1,360			n.a.
Kane County Forest Preserve	32 L	Upper	585			n.a.
DuPage County Forest Preserve	38 L	Upper	2,000			n.a.

TABLE I (cont.)

Name	Location Map No. 1/	Location Zone 2/	Size in Acres Land & Water	Size in Acres Water Surface 3/	Location on Water	Visitation in 1961 (in 000's)
LOCAL (cont'd)						
Recreation Areas (cont'd)						
Cook County Forest Preserve	39 L	Upper	50,000	2,200	River (D)	n.a.
Will County Forest Preserve	55 L	Upper	901			n.a.
Rock Island County Forest Preserve	74 L	Middle	2,028			
			56,874	2,200		
MAJOR QUASI-PUBLIC AND PRIVATE						
Nature Preserves						
Volo and Wauconda Bogs Nature Preserve	24 P	Upper	107		Lake	n.a.
Rocky Branch Nature Preserve	92 P	Middle	180			n.a.
			287			
TOTAL - State of Illinois			130,822	21,530		
STATE OF INDIANA						
STATE						
Parks						
Indiana Dunes State Park	42 S	Upper	2,182		Lakeshore	378
Tippecanoe River State Park	44 S	Upper	2,744		River (O)	35
Kankakee River State Park	46 S	Upper	1,794		River (K)	11
			6,720			
Recreation Area						
Bass Lake State Beach	43 S	Upper	20	M	Lake	52
TOTAL - State of Indiana			6,740			

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TABLE I (cont.)

Name	Location Map No. 1/	Location Zone 2/	Size in Acres Land & Water	Size in Acres Water Surface 3/	Location on Water	Visitation in 1961 (in 000's)
STATE OF WISCONSIN						
STATE						
Recreation Area						
Big Foot Beach State Park	10 S	Upper	269	M	Lake	209
Forest						
Kettle Moraine State Forest (Southern Purchase Unit)	5 S	Upper	9,500		Lake	280
Canoe Route						
Little Fox River	6 S	Upper	35 miles		River (F)	n.a.
LOCAL						
Recreation Area						
Milwaukee County Parks	1 L	Upper	9,348		Lakes	n.a.
Waukesha County Parks (4 areas)	4 L	Upper	1,115		Lakes	n.a.
Rock County Parks (3 areas)	9 L	Upper	71		River (Rt)	n.a.
Kenosha County Parks (3 areas)	11 L	Upper	492		Lake & River	n.a.
Racine County Parks (3 areas)	12 L	Upper	158			n.a.
			11,184			
TOTAL - State of Wisconsin			20,953			
GRAND TOTAL - BASIN INFLUENCE ZONE			158,515	21,530		

TABLE I (cont.)

Footnotes

1/ The letter following the map number identifies the level of government of the administering agency, as follows: "N" = National (Federal); "S" = State; "L" = Local; and "P" = Major Quasi-Public and Private.

2/ Location "Zone" refers to the Upper, Middle, and Lower Zones as delineated on the map appearing with this Appendix.

3/ Where the acreage is not shown, the letters represent the following:

"S" - indicates water surface under 500 acres
"M" - indicates water surface of 500 to 10,000 acres
"L" - indicates water surface of over 10,000 areas

4/ When a recreation area is located on a river, the river is identified by the following:

(D) - Des Plaines River
(G) - Green River
(F) - Fox River
(I) - Illinois River
(K) - Kankakee River
(M) - Mississippi River
(O) - Other
(R) - Rock River
(t) - Tributary stream

Note: Although two historically sigificant State parks in Illinois, Lincoln's New Salem and Lincoln Trail Homestead, are not included in this tabulation, they provide important water oriented outdoor recreation opportunities in addition to their historical values.

TABLE II

POTENTIAL RECREATION AREAS IN THE ILLINOIS RIVER BASIN INFLUENCE ZONE

Name	Proposed Location		Proposed Size in Acres		Proposed Location on Water	Source of Information
	Map No. 1/	Zone 2/	Land & Water	Water Surface		
STATE OF ILLINOIS						
STATE						
Recreation Areas						
Indian Island (Fox River)	63 S	Upper	1,280		River (F)	(a)
Mississippi River Pool No. 14	75 S	Middle	5,000	L	River (M)	(b)
Mississippi River Pool No. 16	77 S	Middle	5,000	2,200	River (M)	(c)
Mississippi River Pool No. 17	78 S	Middle	1,300	500	River (M)	(c)
Mississippi River Pool No. 18	80 S	Middle	3,300	1,700	River (M)	(c)
Oakley Reservoir	90 S	Middle	5,200	4,200	Reservoir	(d)
Mississippi River Pool No. 20	100 S	Middle	170	M	River (M)	(b)
Mississippi River Pool No. 21	103 S	Middle	4,220	1,700	River (M)	(c)
Mississippi River Pool No. 22	104 S	Middle	3,910	1,750	River (M)	(c)
Mississippi River Pool No. 24	106 S	Lower	2,140	1,225	River (M)	(c)
Mississippi River Pool No. 25	109 S	Lower	2,970	1,500	River (M)	(c)
Mississippi River Pool No. 26	111 S	Lower	8,870	3,400	River (M)	(c)
Cahokia Creek Project	113 S	Lower	5,200	2,600	Reservoir	(e)
			48,560	20,775		
Scenic Road						
Great River Road	115 S	Lower & Middle	557 miles along the Mississippi			(f)
Recreation Canal						
Illinois-Mississippi Canal and Lake Sinnissippi	72 S	Middle	6,220	3,420	Lake and canal	(g)

Footnotes and information sources appear at the end of the table.

TABLE II (cont.)

Name	Proposed Location Map No. 1/	Proposed Location Zone 2/	Proposed Size in Acres Land & Water	Proposed Size in Acres Water Surface 3/	Proposed Location on Water 4/	Source of Information
STATE OR LOCAL Recreation Areas						
Lake Michigan Beach	13	Upper	1,900		Lakeshore	(h)
Northern Grass Lake Marsh Area	15	Upper	3,850		River (F)	(h)
McHenry Fox River Marshes	18	Upper	7,000		River (F)	(h)
Sullivan and Fish Lake Area	19	Upper	4,100		Lakes	(h)
Des Plaines River Valley	20	Upper	9,600		River (D)	(h)
Lake Bluff	21	Upper	420		Lakeshore	(i)
Fort Sheridan	22	Upper	1,160		Lakeshore	(i)
Lake Michigan Shoreline	23	Upper	4,000		Lakeshore	(h)
Fox River Bend Area	25	Upper	6,000		River (F)	(h)
Big Rock Creek Valley	30	Upper	5,000		River (Ft)	(h)
Upper Blackberry Creek Valley	31	Upper	4,000		River (Ft)	(h)
Upper Fersons and Mill Creek Area	33	Upper	7,000		River (Ft)	(h)
South Elgin Pits Area	34	Upper	1,400		River (F)	(h)
Upper West Branch DuPage River Valley	36	Upper	1,000		River (Dt)	(h)
Momence Bottoms	47	Upper	4,250		River (K)	(i)
Plum Creek Valley	50	Upper	4,500		River (O)	(h)
Thorn Creek	51	Upper	1,260		River (O)	(i)
Hickory Creek Valley & Woodland	52	Upper	2,250		River (Dt)	(h)
Spring Creek Valley & Woodland	53	Upper	1,500		River (Dt)	(h)
Lower East Branch DuPage River Valley	54	Upper	2,600		River (Dt)	(h)
Des Plaines River Gravel Island and Bluffs	56	Upper	7,600		River (D)	(h)
Will County Strip Mines Area	58	Upper	8,000		River (I)	(h)
Lower Fox	64	Upper	16,400		River (F)	(i)
Somonauk Lake (proposed impoundment)	65	Upper	4,750		Reservoir	(i)
Indian Lake (proposed impoundment)	66	Upper	9,850		Reservoir	(i)
			119,390			

TABLE II (cont.)

Name	Proposed Location		Proposed Size in Acres		Proposed Location on Water 4/	Source of Information
	Map No. 1/	Zone 2/	Land & Water	Water Surface 3/		
STATE OF INDIANA						
FEDERAL						
Recreation Area						
Lakeshore Indiana Dunes	41 N	Upper	9,000		Lakeshore	(j)
STATE						
Park						
Prairie Lake State Park	45 S	Upper	4,200		River (Kt)	(k)
STATE OF WISCONSIN						
STATE						
Recreation Area						
Highway Recreation Area	3 S	Upper	200		Lake	(m)
	GRAND TOTAL		187,570	24,195		

TABLE II (cont.)

Footnotes

1/ The letter following the map number identifies the level of government of the administering agency, as follows: "N" = National (Federal); "S" = State; "L" = Local; and "P" = Major Quasi-Public and Private. If no letter follows the map number, it has not yet been determined which level of government will acquire and develop the proposed site.

2/ Location "Zone" refers to the Upper, Middle and Lower Zones as delineated on the map, EXISTING AND POTENTIAL RECREATION AREAS, ILLINOIS RIVER BASIN.

3/ Where acreage is not known, the letters represent the following:

"S" - indicates water surface under 500 acres
"M" - indicates water surface of 500 to 10,000 acres
"L" - indicates water surface of over 10,000 acres

4/ When a recreation area is located on a river or one of its tributaries, the river location is identified by the following:

(D) - Des Plaines River. (Dt) Means Des Plaines River tributary
(F) - Fox River, also (Ft)
(I) - Illinois River
(K) - Kankakee River, also (Kt)
(M) - Mississippi River
(O) - Other
(R) - Rock River, also (Rt)

TABLE II (cont.)

Source of Information

(a) Information provided by a representative of the Illinois Department of Conservation at a meeting in East Peoria, Illinois, on January 15, 1963.

(b) Letter from District Engineer, U.S. Army Engineer District, St. Louis, Missouri to the Regional Director, National Park Service, dated March 18, 1960. Acreages given are estimates of land area in fee above the recreation pool. The estimates include land in the states on both sides of the river.

(c) Department of Conservation, State of Illinois, "Schedule II, Leased and Operated Properties," Statement of Acreage, Useage and Facilities, As of June 30, 1962.

(d) National Park Service, Reconnaissance Report - Recreational Use and Development, Oakley Reservoir on Sangamon River, Illinois River Basin. Prepared for the Chicago District Engineer, Corps of Engineers, June 1949.

(e) Interior Special Task Force, Report on Cahokia Water Development Project, Macoupin County, Illinois, April 26, 1962.

(f) Bureau of Public Roads, Department of Commerce, The Great River Road, Illinois -- Report on A Recommended Route for the Great River Road (Mississippi River Parkway) Through the State of Illinois (A distance of approximately 557 miles), August 15, 1958.

(g) Department of Public Works and Buildings, and Department of Conservation, State of Illinois, A General Development Plan for Parks & Recreation, Illinois-Mississippi Canal & Lake Sinnissippi. This report prepared by Scruggs and Hammond, Planning Consultants, Peoria, Illinois, December 1959.

(h) Northeastern Illinois Metropolitan Area Planning Commission, Open Space in Northeastern Illinois, Technical Report No. 2, August 27, 1962.

TABLE II (cont.)

(i) Final Report to Department of Conservation: State Park Plan for Fox River Valley and Northeastern Illinois. Prepared for Department of Public Works and Buildings by Hansen Schneeman & Associates, Chicago Illinois, 1961.

(j) National Park Service, Remaining Shoreline Opportunities in Minnesota, Wisconsin, Illinois, Indiana, Ohio, Michigan, Pennsylvania, New York. A report prepared by the Great Lakes Shoreline Recreation Area Survey, 1959.

(k) Division of State Parks, Indiana Department of Conservation, Recreation Resources of the Illinois River Basin (In Indiana), attachment to letter from K. R. Cougill, Director, Division of State Parks, Indiana, to Field Representative, Bureau of Outdoor Recreation, Northeast Field Office, dated December 17, 1962.

(m) Wisconsin Department of Resource Development, Wisconsin Ten-Year Program, Resource Development and Outdoor Recreation, 1961.

Appendix

VIEWS OF COOPERATING AGENCIES

Comments were received from:

U.S. Public Health Service, Department of Health, Education and Welfare, Chicago

Bureau of Sport Fisheries and Wildlife, U.S. Fish and Wildlife Service, Minneapolis

National Park Service (Northeast Region), U.S. Department of the Interior, Philadelphia

State of Illinois, Sanitary Water Board, Department of Public Health, Springfield

State of Illinois, Department of Conservation, Springfield

State of Wisconsin, Conservation Department, Madison

State of Indiana, Department of Conservation, Indianapolis

Northeastern Illinois Metropolitan Area Planning Commission, Chicago

Forest Preserve District of Cook County, Chicago

COPY

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
REGION V
PUBLIC HEALTH SERVICE
GREAT LAKES-ILLINOIS RIVER BASINS PROJECT
1819 WEST PERSHING ROAD
CHICAGO 9, ILLINOIS

April 17, 1964

Refer to: WS&PC

Mr. Roman H. Koenings
Regional Director, Lake Central Region
Bureau of Outdoor Recreation
United States Department of the Interior
15 Research Drive
Ann Arbor, Michigan 48103

Dear Mr. Koenings:

In order to expedite the preparation of comments on your second draft report, "Outdoor Recreation in the Illinois River Basin," we have reproduced the pages on which we have made comments. Those pages are enclosed.

The report is very well written and will be helpful to us.

Sincerely yours,

/s/ William Q. Kehr

William Q. Kehr
Project Director

Enclosure

COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
1006 WEST LAKE STREET
MINNEAPOLIS, MINNESOTA 55408

March 26, 1964

Memorandum

To: Regional Director, Bureau of Outdoor Recreation, Ann Arbor, Michigan

From: Regional Director, Minneapolis, Minnesota

Subject: Great Lakes-Illinois River Basin - Review of Report Draft "Water Oriented Outdoor Recreation in the Illinois River Basin"

The subject report has been reviewed as requested in your memorandum of March 16, 1964. Several minor editorial changes have been made on pages 18, 30, 57, 58, 59 and 94 of the draft which is enclosed. We concur in the report as it relates to our programs and responsibilities.

Thank you for the opportunity to review this report. The assistance of your staff during our investigation of this project is appreciated.

/s/ R. W. Burwell
R. W. Burwell

Enclosure

COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
NORTHEAST REGION
143 SOUTH THIRD STREET
PHILADELPHIA, PA. 19106

April 20, 1964

Memorandum

To: Regional Director, Northeast Region, Bureau of Outdoor Recreation

From: Acting Regional Director, Northeast Region

Subject: Draft report - Water Oriented Outdoor Recreation in the Illinois River Basin

We appreciate the opportunity to review the draft of subject report. Our comments are the result of a cursory review only and not commensurate with the time and effort that has gone into the preparation of the report.

As you know, the survey area is almost unique in the absence of areas administered by the National Park Service. We are indirectly concerned with the front door of the Illinois Basin through our cooperation in the Chicago Portage National Historic Site. We are vitally concerned with what was perhaps the Basin's back door, and later the gateway to the West--the Jefferson National Expansion Memorial. The Memorial, however, is outside your designated zone of influence, yet surrounded on three sides by it.

Especially intriguing is the pull out map of existing and potential areas. It is a telling portrayal of the water quality and development status of park and recreation areas in Illinois. It would be helpful if its scope were extended to the entire survey area, with similar consideration given to proposed areas. This would, we believe, form an interesting pattern of the last frontier, so to speak, of clean recreation water potentials. Noted is the omission of two Michigan areas reported in Remaining Shoreline Opportunities and within the zone of influence.

COPY

Chemical insecticides and herbicides may cause more havoc to biota and the future general recreation use potential than the present sewage and industrial wastes. Its present detrimental effect may be substantial, but its lingering effect may be the most serious consideration.

/s/ George A. Palmer
George A. Palmer

C O P Y

STATE OF ILLINOIS
SANITARY WATER BOARD
SPRINGFIELD

April 27, 1964

Mr. Roman H. Koenings
Regional Director
Bureau of Outdoor Recreation
Lake Central Region
U.S. Department of The Interior
15 Research Drive
Ann Arbor, Michigan 48103

Dear Mr. Koenings:

We have had an opportunity to review in detail the draft of the report entitled "Water Oriented OUTDOOR RECREATION in the ILLINOIS RIVER BASIN" received March 18 and prepared for Region V, Public Health Service.

Based upon a detailed review of this report in which many marginal notes were made, there are several general and basic comments which we would like to make.

In accordance with your transmittal letter, you definitely do not have the concurrence of the Sanitary Water Board with many of the statements made in this report. Quite frankly, we were surprised at some of the statements and inadequacies which were included and we do not feel that this particular report is typical of the high standards of many of the past reports which have been prepared by your agency.

Throughout the report there are statements that are definitely not according to the facts, a number of intimations and generalities that do not apply to the Illinois River Basin, and our over-all comment is that we do not believe your conclusions are based upon sound field data and, therefore, are conclusions which are without sound technical engineering facts.

I fully realize that these comments may sound rather blunt but these reflect the composite views of several of our staff who have reviewed this report and individually have the impression that the report was prepared with a number of foregone conclusions in mind and an attempt was made to substantiate these conclusions by opinions, statements, some obviously lifted from other reports, which did not pertain to the Illinois River Basin.

C O P Y

I fully realize that you are not obligated to prepare a report that meets with our approval, but I do feel that there is an obligation on the part of your agency to prepare a factual report based upon facts as they exist in the Illinois River Basin.

This, we do not feel you have accomplished.

Please be assured that the comments recorded in this letter are not based on superficial reviews but there are a number of examples, in some cases, which substantiate the comments as given above.

We did appreciate the opportunity that you afforded us for this review.

Very truly yours,

/s/ Clarence W. Klassen

Clarence W. Klassen
Technical Secretary

cc: Department of Conservation
Att: Director Lodge

Region V, Public Health Service

COPY

STATE OF ILLINOIS
DEPARTMENT OF CONSERVATION
SPRINGFIELD

May 7, 1964

Mr. Roman H. Koenings
Regional Director
U.S. Department of Interior
Bureau of Outdoor Recreation
15 Research Drive
Ann Arbor, Michigan 48103

Dear Mr. Koenings:

You requested in your letter of March 16, 1964, our review and additional comments by April 3 for the draft report Outdoor Recreation in the Illinois River Basin. On April 14, you urged us to follow through with the original request.

The subject covered is indeed a most difficult one to present from the recreational standpoint within the realm of feasibility. We suggest that this report be checked closely by your staff as definite improvements may be made after the work has been set aside for a time. We feel the report should bring out that it is impossible to obtain a clear idea of the purpose and degree to which the polluted water should be purified without a thorough knowledge of the effects of various types of polluted waters on a river or a lake.

There has been great advances in many fields in our time; however, there must be some definite practical major break-throughs in man's ability to improve water quality over and above present methods if we may expect definite improvements for the Illinois River Basin situation, or for that matter, other similar densely populated areas of our country. Just because we do not have the complete know-how should not deter us from taking steps in the right direction. Yet it is important to state the whole story clearly.

C O P Y

Mr. Koenings
May 7, 1964
Page 2

On page 30, under recreational resources, you have given a resume of the fauna in which you take up certain wildlife species and have not given any resume of the fisheries in the Illinois River Basin. It would be better, in our opinion, to add the fisheries to this section or delete the wildlife.

Important items not developed are soil erosion and siltation. The knowledge of the prevention of this form of pollution is similar to industrial and domestic pollution.

I hope these comments regarding the report may be helpful and an effort made to evaluate and present them.

Sincerely yours,

/s/ William T. Lodge
William T. Lodge
Director

COPY

STATE OF WISCONSIN
CONSERVATION DEPARTMENT
Madison 1

April 1, 1964

Mr. Roman H. Koenings
Regional Director
Bureau of Outdoor Recreation
15 Research Drive
Ann Arbor, Michigan 48103

Dear Roman:

In reference to your letter of March 16 requesting comments on the second draft of the Illinois River Basin Report, we suggest the following changes:

Page 66
The Kettle Moraine State Forest currently comprises about 12,000 acres. There were 233,000 day visits and 24,560 camper days in 1963.

Page 67
There has been a change in the county park acreages for several of the affected counties which is indicated on p. 121 and may affect totals here.

Page 87
Substitute Wisconsin Conservation Department for Department of Resource Development.
Substitute State Parks and Recreation Division for Forests and Parks Division.

Page 88
Gross area of Kettle Moraine State Forest is 23,000, of which they may eventually own about 20,000 acres. Change acreage in chart to 8,000 instead of 15,500. Current figures are 12,000 acres, 257,000 visits and 22 visits per acre.

Page 89
Change area to be added under Wisconsin to 8,000 and percent accordingly.

COPY

Page 101
Although final studies are not complete, it is not anticipated that the Ice Age National Scientific Reserve will be included in the area under study by this report.

Page 121
Substitute State Park for Recreation Area. Under State Park (1) the correct 1961 attendance for Big Foot Beach is 217,000 and 29,000 camper days. (2) Add Aztalan State Park 123 acres, Crawfish River 34,500 visits, Cushing Memorial State Park 10 acres, Bark River 72,300 visits. Areas are shown on enclosed state highway map.

Under Local - recreation Area

Correct acreages -	Milwaukee Co.	11,575
	Kenosha Co.	883
	Racine Co.	180

No change in other counties.

The Game Management Division has purchased land in this area for public hunting. Attached is a map and chart listing the lands that have been purchased.

We do not feel that a meeting will be necessary but we would like to be kept informed of the report progress and the Great Lakes basin study now under way. If there is any further information desired, please let me know.

Very truly yours,

/s/ L. P. Voigt
L. P. Voigt
Conservation Director

C O P Y

STATE OF INDIANA
DEPARTMENT OF CONSERVATION
INDIANAPOLIS

April 1, 1964

Mr. Roman H. Koenings
Regional Director
United States Department
of the Interior
Bureau of Outdoor Recreation
Lake Central Region
15 Research Drive
Ann Arbor, Michigan 48103

Dear Mr. Koenings:

Thank you for your letter of March 16, 1964 in which you provided us with a copy of the second draft of the report "Outdoor Recreation in the Illinois River Basin".

This report has been received by officials in the Division of State Parks, the Division of Fish and Game and by the Chief Engineer. Our comments are as follows:

1. The property formerly named Kankakee River State Park, in Lake and Newton Counties, Indiana has been re-named LaSalle State Fish and Game Area. This property has been operated by the Division of Fish and Game since January 1, 1964. References to Kankakee River State Park, on page 12 of your report and location No. 468 on the list of Names of Existing and Potential Recreation Areas should be changed accordingly. You may want to change certain tables and other records in your report which include this property as a state park, to list it as a fish and game area.

2. We agree, as emphasized in the report, that all stream and lake pollution needs to be corrected and that there is an increased demand by the public for water-oriented recreation.

Reproduced from best available copy.

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April 1, 1964

3. Officials in our Division of Fish and Game believe that recognition could be made of the fact that the fish and game areas provide hunting and fishing facilities to the many sportsmen who visit these areas each year. Statements concerning the fish and game areas were listed in the enclosure to our letter, dated December 17, 1962, to Mr. William R. Failor. A copy of the Fish and Game Division's 45th Annual Report, for the 1962-63 fiscal year, is enclosed.

4. Mr. Henry Prange, Chief Engineer, Indiana Department of Conservation, stated that none of our properties which are in the Illinois River Basin contribute pollution to that stream.

5. We cannot make intelligent comments on the mass of statistics in this report because we do not have personnel to check the background information. The report is very well done and very comprehensive.

Thanks for giving us an opportunity to review the second draft of the Illinois River Basin report.

Very truly yours,

/s/ Donald E. Foltz

Donald E. Foltz, Director
Indiana Department of Conservation

enc.

C O P Y

NORTHEASTERN ILLINOIS METROPOLITAN AREA PLANNING COMMISSION

72 WEST ADAMS STREET, CHICAGO 3, ILLINOIS

April 29, 1964

Mr. Roman H. Koenings
Regional Director
U.S. Dept. of the Interior
15 Research Drive
Ann Arbor, Michigan

Dear Mr. Koenings:

Please forgive our delay in reviewing the second draft report Outdoor Recreation in the Illinois River Basin. Our comments follow according to the page numbers of the draft.

page 14: The Illinois Dept. of Conservation and the Board of Economic Development are currently preparing a "sketch" plan for State-wide parks and recreation areas. This plan will make use of whatever data our commission can provide concerning water and outdoor recreation needs.

chapter beginning page 50. This extensive inventory of existing facilities (which might be put into an appendix) could have included more reference to private water-oriented recreation facilities including ubiquitous marinas and the private and semi-private lake and pool facilities.

page 81. The use of the "average annual visitation" as the key to a local standard for major public recreation facilities is not justified in the text. Should a highly urbanized, cold-climate population expect or care to use the major recreation facilities at the national average rate? How does the national average use become the same as the local recommended use? Our own Open Space report was also inadequate with respect to supporting standards due largely to the "state of the art." It should be pointed out that acreage (especially land acreage) is an expression for needs of water oriented recreation that is far from ideal, even though it is one of the best available.

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page 87. The Lake County Regional Planning Commission and our own Commission are now preparing plans for land acquisition for the Lake County and DuPage County Forest Preserve Districts respectively. Money has already been appropriated for acquisition use in Lake County.

General

The most concrete recommendation of the report is the one on the establishment of water quality criteria. Our DuPage County report will also establish water and land resource criteria, e.g. areas recommended for acquistion as Forest Preserve land which will serve (1) to avoid flood problems (were the land developed for other use), (2) provide for low flow augmentation and ground water recharge, (3) permit later sand and gravel resource development, and (4) provide sites suitable for sanitary landfills as a vitally needed temporary use which will also build up the relief and thereby improve the recreation aspect later on.

Accordingly, we believe that it would be possible, even at a broader scale of planning, to emphasize criteria for outdoor recreation land--to include both recreation and other public benefits such as those listed above. We can then make a case for "open" use being the "highest and best" use in many areas. This would provide a strong assist to the usual demand approach in recreation and open space programs.

Sincerely,

/s/ Lawrence Christmas

Lawrence Christmas
Research Officer

COPY

FOREST PRESERVE DISTRICT
of Cook County, Illinois
536 North Harlem Avenue
River Forest, Illinois 60305

April 21, 1964

Mr. Roman H. Koenings,
Regional Director,
Bureau of Outdoor Recreation,
15 Research Drive,
Ann Arbor, Michigan.

Dear Mr. Koenings:

We have reviewed your second draft of the report on "Outdoor Recreation in the Illinois River Basin".

Opportunity does not permit to make a field study but we feel the report is well done and could very well stand as is.

Sincerely,

/s/ Chas. G. Sauers

Chas. G. Sauers,
General Superintendent.

CGS:adg

cc - Eisenbeis

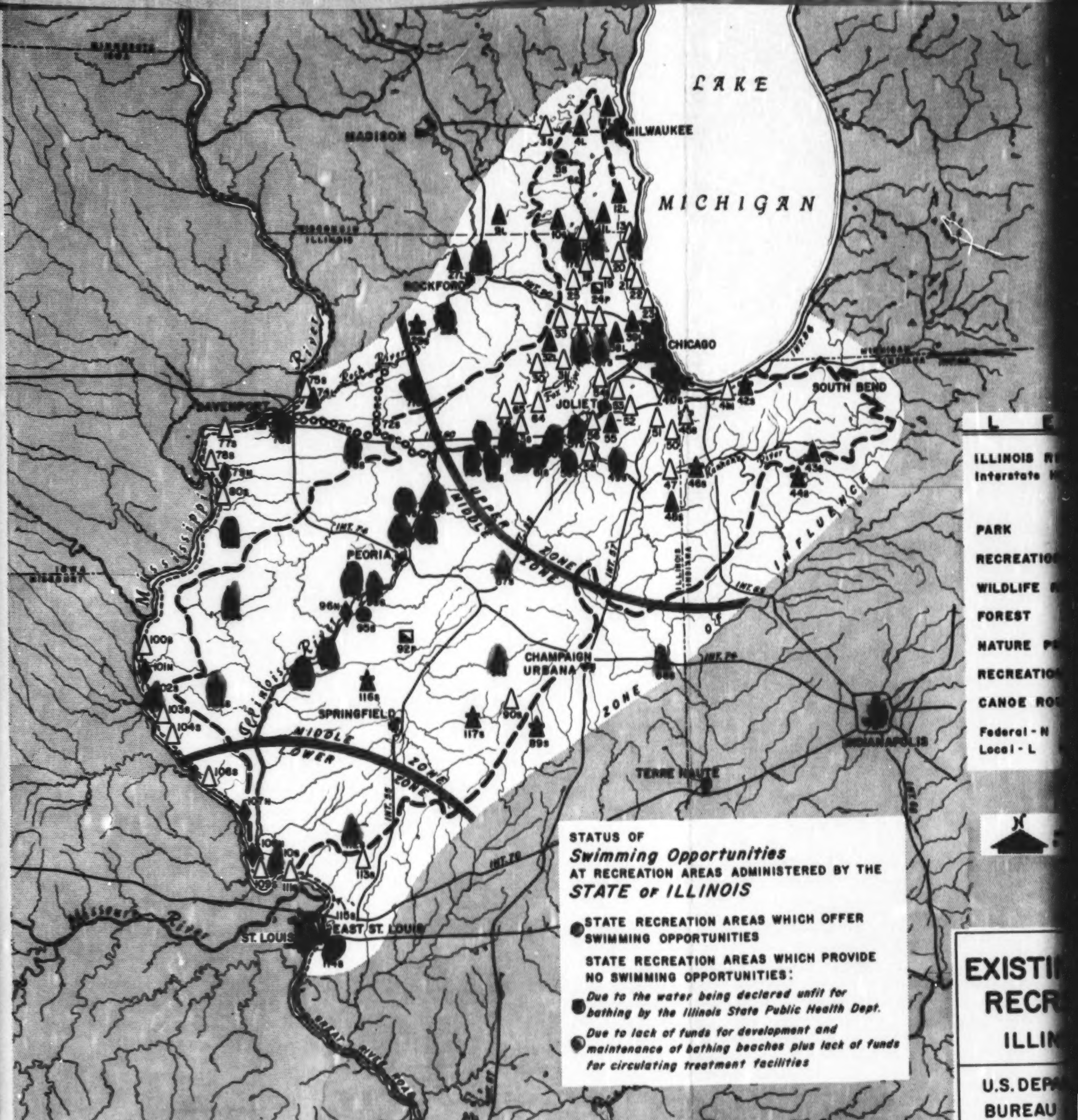
NAMES OF

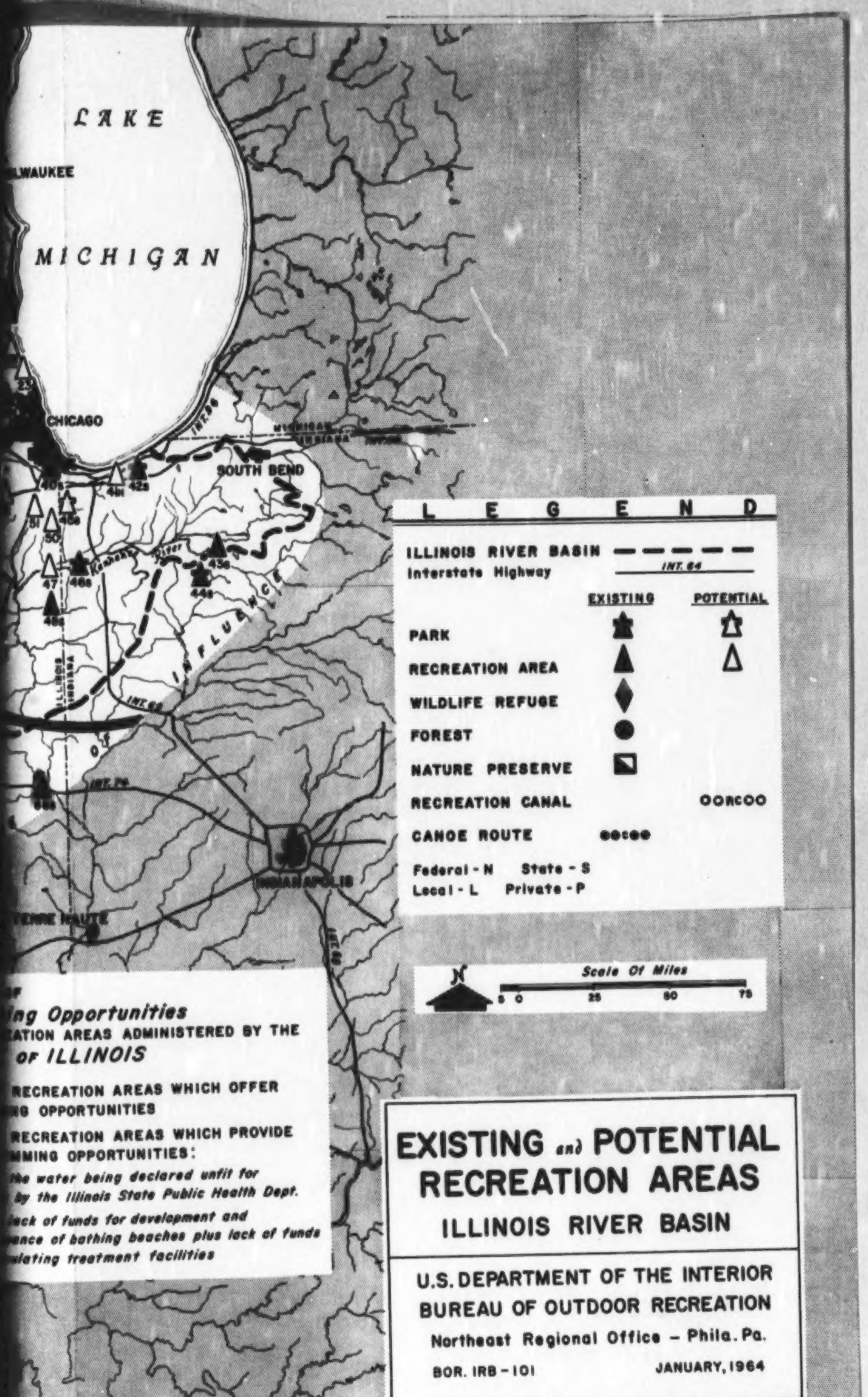
Existing and Potential Recreation Areas

Map No.	Name of Recreation Area
1 L	Milwaukee County Parks
3 S	Highway Recreation Area
4 L	Waukesha County Parks (4 areas)
5 S	Kettle Moraine State Forest (Southern Purchase Unit)
6 S	Little Fox River Canoe Route
9 L	Rock County Parks (3 areas)
10 S	Big Foot Beach State Park
11 L	Kenosha County Parks (3 areas)
12 L	Racine County Parks (3 areas)
13	Lake Michigan Beach
14 S	Illinois Beach State Park
15	Northern Grass Lake Marsh Area
16 S	Chain O'Lakes State Park
17 S	McHenry Dam State Park
18	McHenry Fox River Marshes
19	Sullivan and Fish Lake Area
20	DesPlaines River Valley
21	Lake Bluff
22	Fort Sheridan
23	Lake Michigan Shoreline
24 P	Volo and Wauconda Nature Preserve
25	Fox River Bend Area
26 S	Rock Cut State Park
27 L	Winnebago County Forest Preserve
28 S	Lowden Memorial State Park
29 S	White Pines Forest State Park
30	Big Rock Creek Valley
31	Upper Blackberry Creek Valley
32 L	Kane County Forest Preserve
33	Upper Fersons and Mill Creek Area
34	South Elgin Pits Area
35 S	DuPage County Conservation Area (Palm Track)
36	Upper West Branch DuPage River Valley
37 S	DuPage County Conservation Area (Mallard Lake)
38 L	DuPage County Forest Preserve
39 L	Cook County Forest Preserve
40 S	Wolf Lake Conservation Area
41 N	Lakeshore Indiana Dunes
42 S	Indiana Dunes State Park
43 S	Bass Lake State Beach
44 S	Tippecanoe River State Park
45 S	Prairie Lake State Park
46 S	Kankakee River State Park (Indiana)
47	Momence Bottoms
48 S	Iroquois County Conservation Area
49 S	Kankakee River State Park (Illinois)
50	Plum Creek Valley
51	Thorn Creek
52	Hickory Creek Valley and Woodland
53	Spring Creek Valley and Woodland
54	Lower East Branch DuPage River Valley
55 L	Will County Forest Preserve
56	DesPlaines River Gravel Island and Bluffs
57 S	Channahon Parkway State Park
58	Will County Strip Mines Area
59 S	Wm. G. Stratton State Park
60 S	Gebhard Woods State Park
61 S	Illinois-Michigan Canal State Park
62 S	Illini State Park
63 S	Indian Island (Fox River)
64	Lower Fox
65	Somonauk Lake (proposed impoundment)
66	Indian Lake (proposed impoundment)
67 S	Fox River State Park
68 S	Buffalo Rock State Park
69 S	Starved Rock State Park
70 S	Matthiessen State Park
71 S	Lee County Conservation Area
72 S	Illinois-Mississippi Canal and Lake Sinnissippi
73 S	Johnson Sauk Trail State Park
74 L	Rock Island County Forest Preserve
75 S	Mississippi River Pool No. 14
76 S	Black Hawk State Park
77 S	Mississippi River Pool No. 16
78 S	Mississippi River Pool No. 17
79 N	Mark Twain National Wildlife Refuge, Keithsburg Unit
80 S	Mississippi River Pool No. 18
82 S	Delabar State Park
83 S	Sparland Conservation Area
84 S	Spring Branch Conservation Area
85 S	Woodford County Conservation Area
86 S	Marshall County Conservation Area
87 S	McLean County Conservation Area
88 S	Kickapoo State Park
89 S	Spitler Woods State Park
90 S	Oakley Reservoir
91 S	Weldon Springs State Park
92 P	Rocky Branch Nature Preserve
93 S	Spring Lake State Park
94 S	Rice Lake Conservation Area
95 S	Mason State Forest
96 N	Chautauqua National Wildlife Refuge
97 S	Anderson Lake Conservation Area
98 S	Sanganois Conservation Area
99 S	Argyle Lake State Park
100 S	Mississippi River Pool No. 20
101 N	Mark Twain National Wildlife Refuge, Gardner Unit
102 S	Sid Simpson State Park
103 S	Mississippi River Pool No. 21
104 S	Mississippi River Pool No. 22
105 S	Siloam Springs State Park
106 S	Mississippi River Pool No. 24
107 N	Mark Twain National Wildlife Refuge, Calhoun Unit
108 N	Mark Twain National Wildlife Refuge, Batchtown Unit
109 S	Mississippi River Pool No. 25
110 S	Pere Marquette State Park and Conservation Area
111 S	Mississippi River Pool No. 26
112 S	Beaver Dam State Park
113 S	Cahokia Creek Project
114 S	Grand Marais State Park
115 S	Great River Road
116 S	Lincoln's New Salem State Park
117 S	Lincoln Trail Homestead State Park

Federal - N
State - S
Local - L
Private - P

Revised March, 1965


LAKE MICHIGAN
MILWAUKEE
MADISON
ROCKFORD
CHICAGO
SOUTH BEND
DAVENPORT
JOLIET
PEORIA
CHAMPAIGN URBANA
SPRINGFIELD
TERRE HAUTE
INDIANAPOLIS
ST. LOUIS
EAST ST. LOUIS
Mississippi River
Illinois River
Rock River
Fox River
Kankakee River
Missouri River
Ohio
GREAT RIVER ROAD
UPPER ZONE
MIDDLE ZONE
LOWER ZONE
ZONE OF INFLUENCE
MINNESOTA IOWA
WISCONSIN ILLINOIS
IOWA MISSOURI
ILLINOIS INDIANA
MICHIGAN INDIANA
STATUS OF
Swimming Opportunities
AT RECREATION AREAS ADMINISTERED BY THE
STATE OF ILLINOIS
STATE RECREATION AREAS WHICH OFFER SWIMMING OPPORTUNITIES
STATE RECREATION AREAS WHICH PROVIDE NO SWIMMING OPPORTUNITIES:
Due to the water being declared unfit for bathing by the Illinois State Public Health Dept.
Due to lack of funds for development and maintenance of bathing beaches plus lack of funds for circulating treatment facilities
L E
ILLINOIS R
Interstate H
PARK
RECREATIO
WILDLIFE
FOREST
NATURE P
RECREATIO
CANOE RO
Federal - N
Local - L
N
EXISTI
RECR
ILLIN
U.S. DEPA
BUREAU
Northea
BOR. IRB -


LAKE
MICHIGAN
MILWAUKEE
CHICAGO
SOUTH BEND
INDIANAPOLIS
TERRE HAUTE
MICHIGAN
INDIANA
ILLINOIS
INDIANA
INFLUENCE
Kankakee River
INT. 80
INT. 94
INT. 65
INT. 70
40s
41s
42s
43s
44s
45s
46s
47
48s
50
51
LEGEND
ILLINOIS RIVER BASIN
Interstate Highway
INT. 64
EXISTING
POTENTIAL
PARK
RECREATION AREA
WILDLIFE REFUGE
FOREST
NATURE PRESERVE
RECREATION CANAL
CANOE ROUTE
Federal - N
State - S
Local - L
Private - P
N
Scale Of Miles
0
25
50
75

ing Opportunities
ATION AREAS ADMINISTERED BY THE
OF ILLINOIS

RECREATION AREAS WHICH OFFER
NG OPPORTUNITIES

RECREATION AREAS WHICH PROVIDE
MMING OPPORTUNITIES:

the water being declared unfit for
by the Illinois State Public Health Dept.

lack of funds for development and
ance of bathing beaches plus lack of funds
ulating treatment facilities

EXISTING and POTENTIAL RECREATION AREAS
ILLINOIS RIVER BASIN

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
Northeast Regional Office – Phila. Pa.
BOR. IRB – 101 JANUARY, 1964